DOCUMENT RESUME

ED 318 528 JC 900 260

AUTHOR Knoell, Dorothy
TITLE Transfer, Articulation, and Collaboration: Twenty-Five Years Later.
INSTITUTION American Association of Community and Junior Colleges, Washington, D.C.
SPONS AGENCY Ford Foundation, New York, N.Y.
REPORT NO ISBN-0-87117-211-9
PUB DATE 90
NOTE 109p.
AVAILABLE FROM American Association of Community and Junior Colleges, One Dupont Circle, N.W., Suite 410, Washington, DC 20036 ($15.00).
PUB TYPE Reports - Descriptive (141) -- Books (010)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Articulation (Education); *College Transfer Students; Community Colleges; Educational Trends; Higher Education; *Intercollegiate Cooperation; *Transfer Programs; Two Year Colleges

ABSTRACT

Comparing data from two studies of community college transfer conducted 25 years apart, this report describes policies, programs, regulations, and practices governing relationships between two- and four-year colleges at state, regional, and local levels. The study that led to this report gathered information from 11 states on transfer admission, assessment, remediation, baccalaureate degrees for vocational students, equal opportunity programs, databases, special arrangements to encourage transfer, state incentives, staff preparation and development, and articulation. The 11 chapters of the report focus on: (1) the need for and methods of the current study, the differences between the 1965 and 1989 studies, and the aims and focus of the report; (2) the educational contexts of the early 1960's and the mid-1990's, with comparisons of governance, community college mission, enrollments, admission, remediation, financial aid, affirmative action, and articulation; (3) the major dimensions of the study; i.e., state-mandated policies and practices, voluntary statewide and interinstitutional agreements, faculty involvement in articulation, and special funding for transfer and articulation; (4) admission policies and practices for limited access programs and campuses and associate degree programs; (5) skills assessment and remediation as articulation issues; (6) ethnic minority students and the transfer function; (7) articulation of career education programs, including information on secondary/postsecondary articulation, 2 + 2 + 2 programs, special degree programs, and articulation of non-credit coursework; (8) databases of transfer data and state information systems; (9) other developments in areas of counseling, staff preparation and transfer, program review, and joint use of facilities and resources; (10) conclusions regarding undergraduate admission, assessment, remediation, educational equity and opportunity, and career education leading the baccalaureate degrees; and (11) concluding comments with respect to the roles of states and faculty, special funding, intercollegiate cooperation, and changes over the 25-year period between the two studies. National guidelines for transfer and articulation, a detailed description of study methodology, and state profiles are appended. (AYC)

ED318528

Transfer, Articulation, AND Collaboration

Twenty-Five Years Later

■

THE REPORT OF A RESEARCH PROJECT
FUNDED BY THE FORD FOUNDATION

■

BY DOROTHY KNOELL

With Martin Ahumada, *University of Arizona*

Bruce Hamlett, *California Postsecondary Education Commission*

Kathleen Kistler, *College of the Redwoods*

Carol McKenzie, *Sacramento City College*

Kevin Woolfork, *California Postsecondary Education Commission*

American Association of Community and Junior Colleges
California Postsecondary Education Commission

JC 900 260

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

J. GOLLATTSCHECK

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☑ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

© Copyright 1990 by the American Association of Community and Junior Colleges
Printed in the U.S.A.

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without written permission from the publisher.

Published by the American Association of Community and Junior Colleges
National Center for Higher Education
One Dupont Circle, N.W., Suite 410
Washington, D.C. 20036
Phone: (202) 728-0200
ISBN 0-87117-211-9

ABOUT THE AUTHOR

During a panel discussion at AACJC headquarters, Dorothy Knoell and James Wattenbarger review the transfer and articulation guidelines that appear in this book.

Dorothy M. Knoell, nationally known for her research on transfer and articulation, is a staff member of the California Postsecondary Education Commission. While at the University of California, Berkeley, she wrote *From Junior to Senior College: A National Study of the Transfer Student* with Leland L. Medsker. She has also worked on urban community college projects with the American Association of Community and Junior Colleges and the State University of New York.

CONTENTS

1. Background for the Report 1

Need for the Study 1
Methods of the Study 2
Aims of the Report 2
Focus of the Report 3
Differences Between the Two Studies 5
Organization of the Report 6

2. Two Contexts: Early 1960s to Mid-1980s 7

Governance 7
Community College Mission 7
Enrollments 8
Admission 8
Remediation 9
Financial Aid 9
Affirmative Action 9
Articulation in General 9

3. Major Dimensions of the Study 11

State-Mandated Policies and Practices 11
Voluntary Statewide and Interinstitutional Agreements 13
Faculty Involvement in Articulation 16
Special Funding for Transfer and Articulation 17

4. Admission Policies and Practices 19

Admission Requirements and Standards 20
Selection Among Eligible Applicants to Limited Access Programs and Campuses 23
Exceptions to Requirements and Standards 25
The Associate in Arts Degree 26

5. Assessment and Remediation as Articulation Issues 27

Types of Basic Skills Assessment 27
Remediation 29

6. Ethnic Minority Students and the Transfer Function 33

Practices in the States 33
Ford Foundation Programs 36

7. Articulation of Career Education Programs 41

Secondary/Postsecondary Articulation and Collaboration 42
2 + 2 + 2 Programs 43
Special Degrees for Special Students 44
Articulation Involving Non-Credit Coursework 45
Prospects 46

8. Data Bases and Information Systems 47

Data Needed to Monitor Transfer 47
Illustrations From Selected States 48

9. Other Developments in Articulation and Collaboration 53

Aids to Counseling About Transfer 53
Staff Preparation and Development 58
Program Review for Articulation 59
Joint Use of Facilities and Resources 60

10. Conclusions—Old and New 63

Undergraduate Admission 63
Assessment 65
Remediation 65
Educational Equity and Opportunity 66
Career Education to the Baccalaureate Degree 66
Data Bases Related to Transfer 67
Other Conclusions—Then and Now 68

11. Concluding Comments 71

State Roles and Responsibilities 71
Faculty Roles and Responsibilities 72
Special Funding 73
Articulation as Collaboration 74
Comparing the Conclusions 75

National Guidelines for Transfer and Articulation 77

Appendix A: Methodology of the Study 83

Appendix B: State Profiles 89

References 105

1.
BACKGROUND FOR THE REPORT

NEED FOR THE STUDY

In 1960 the United States Office of Education made the first of two grants to the Center for the Study of Higher Education at the University of California, Berkeley, for a comprehensive national study of the junior college transfer function. That study resulted in the publication, *From Junior to Senior College: A National Study of the Transfer Student*, by Dorothy M. Knoell and Leland L. Medsker (1965). In 1985 the Ford Foundation made a grant to the California Postsecondary Education Commission for another national study of current policies, practices, and programs to facilitate the flow of students from community colleges through four-year institutions, with attention to collaboration, articulation, and transfer among institutions. This report summarizes the findings of that study.

In the 20 years that have elapsed since the completion of the first study, junior colleges have become "community" colleges—usually characterized as comprehensive, their once-dominant transfer function has become but one of several important functions; and rather than being viewed as "high schools with ashtrays," they are seen as full partners in the interdependent family of institutions of higher education. Modifications in their governance and administration have accompanied these functional changes. At the local level, their separation from elementary and secondary school districts has given them their own governing boards and administrators, and their concomitant separation at the state level from state boards of education has led to state boards for community colleges. With passage of the federal Higher Education Act of 1972, virtually all 50 states either established or designated boards and commissions to help plan and coordinate all postsecondary education; and while federal incentives for planning and coordination failed to materialize, these new state agencies have for the most part played some role in coordinating student flow and program articulation.

Furthermore, many states have been or are now thinking about producing new state master plans for postsecondary education. In the 1960s, California's 1960 Master Plan for Higher Education was for most of them a model, particularly as it elevated the junior colleges to full partners in higher education insofar as they were to share responsibility for educating students in the lower-division portion of baccalaureate-degree programs. Now—some 25 years later—new master plan studies in California and elsewhere are

re-examining the community college mission, its functions, and its relationship to other levels and types of postsecondary education.

Thus, the Ford Foundation grant has enabled the commission to look at transfer, articulation, and interinstitutional collaboration generally, not simply because conditions have changed since the 1960s, but because current state planning efforts will benefit from the findings of a new study.

METHODS OF THE STUDY

With the assistance of a national advisory committee, project staff selected 11 states for site visits—Arizona, California, Colorado, Florida, Illinois, Minnesota, New York, North Carolina, South Carolina, Texas, and Washington. Staff then conducted the study by interviewing state-level personnel responsible for postsecondary policy determination, administration, coordination, and research in the 11 states and then analyzing statements of policy and practice, guidelines, program descriptions, research, and statistical reports related to transfer and articulation that were obtained from these states.

Explained in greater detail in Appendix A, two-person staff teams conducted interviews in each state with personnel from the statewide coordinating/planning board or commission, the state board for community colleges, the state board(s) for public four-year colleges and universities, and the association for independent colleges and universities. Where appropriate, they also interviewed other higher education association and state education department staff, campus administrators, and state legislators and their staffs.

At the conclusion of the visits, staff prepared state reports for internal use that included references to documents pertaining to the general themes and topical areas.

AIMS OF THE REPORT

A primary objective of this report is to disseminate up-to-date information about policies, programs, regulations, and practices governing relationships between two- and four-year institutions at state, regional, and local levels, with emphasis on those that facilitate student flow and interinstitutional collaboration. This report seeks to offer examples of good practice without reference to how many states or systems of postsecondary education embrace them. In other words, it takes neither a statistical approach of counting how many do what, nor a state-by-state descriptive approach. Instead, based on interviews and analysis of documents in 11 states that have extensive two-year college systems or networks, it identifies practices that seem particularly worthy of consideration by other states.

The study that led to this report was designed to produce files of information about transfer and articulation in the 11 states that may be shared with those seeking more information than can be reported here. It assembled information in 10 topical areas: transfer admission, assessment, remediation, baccalaureate degrees for vocational students, equal opportunity programs, data bases, special arrangements to encourage transfer, state incentives, staff preparation and development, and articulation.

A second and equally important aim of the report is to provide guidance to those who

regulate, make policy, establish practice, and develop programs concerning what appear to be the appropriate roles of state legislatures, agencies for statewide coordination and planning, governing boards for systems of institutions, the faculty—collectively and in discipline-related or other subgroups—and individual and receiving institutions. Since states differ in size and complexity of their higher education systems, governing and coordinating structures, and traditions with respect to the role of their two-year institutions in providing initial access to the baccalaureate degree, there are no national solutions to the complex problems of articulation and collaboration. Still, some conclusions have emerged from the analysis on the 11 states that may be helpful to those attempting to increase opportunities for two-year college students to earn baccalaureate degrees.

This report and the information files seek to be resources that will encourage and motivate groups in all states to: review and update existing guidelines for articulation and transfer; or develop new guidelines. At the completion of the earlier study, the Exxon Foundation funded an action project to enable interested states to use the results of the study in developing articulation guidelines appropriate to their particular conditions, while the American Association of Collegiate Registrars and Admissions Officers developed national guidelines that have been updated periodically by its membership. No such action project is planned to follow the current study, although the staff has disseminated the findings of the study by means of presentations at the spring 1987 annual meetings of the American Association for Higher Education, the American Association of Community and Junior Colleges, and the American Association of Collegiate Registrars and Admissions Officers. The staff hopes that this report will be used by states and systems of higher education to improve their interinstitutional policies and practices.

FOCUS OF THE REPORT

Four general dimensions provided the themes for the study:

- The role of the state in regulating, funding, and policy making to facilitate transfer and articulation;
- The feasibility of voluntary, statewide practice versus local agreements between groups or pairs of institutions or divisions within them;
- Faculty involvement in articulation activities in relation to that of other college and university offices; and
- Specially funded programs and activities.

Since the 1960s, state after state has established commissions and agencies for coordination and planning and also state boards for community colleges that were previously under the jurisdiction of state boards responsible for elementary and secondary education. There has also been tremendous growth in undergraduate enrollments, the number of postsecondary institutions, and the complexity of functions of both two- and four-year institutions since the earlier study, all of which have implications for articulation and interinstitutional collaboration.

Frustrated by what may appear to be the inefficiencies of voluntary processes and the looseness of agreements that are reached by such processes, state legislatures and other rule-making bodies are tempted to replace voluntary agreements with statutes or regulations. Thus the first general theme for the investigation is the role of the state in mandating policies and practices in order to improve transfer and articulation.

Closely related to the first theme is the second—the extent to which policies, practices, and agreements are reached that are statewide in nature and applicable to all public colleges and universities, compared with agreements between and among particular systems, groups, or pairs of institutions. Statewide policies may include independent as well as public colleges and universities. However, state-mandated policies may require systems or other groups of institutions—regional or with similar missions and functions—to reach agreements in accordance with state policy directives or guidelines.

Still other forms of agreements involving institutions are those reached by departments or divisions within institutions: for example, those responsible for general education, engineering, or foreign languages. These latter agreements tend to be voluntary in nature and may be state- or systemwide as well as applicable to only groups or pairs of institutions. Complementing the first theme of mandated versus voluntary, the second concerns statewide versus institutional agreements involving only pairs, groups, or particular systems of two- and four-year institutions.

The nature and extent of faculty involvement in reaching articulation agreements comprises the third general theme. Registrars and admission officers—often in their state and national associations—counselors, student personnel workers, and other college and university administrators were usually the principal participants in articulation and transfer activities at the time of the first national study, the findings from which were used by the American Association of Collegiate Registrars and Admissions Officers to establish national guidelines for articulation and transfer.

The role of non-faculty does not appear to have decreased in importance during the last two decades—particularly at the campus level—but exploration by staff that led to the current inquiry indicated that faculty members may have become key players in articulation activities in their particular disciplines. Faculty involvement was therefore selected as a third general theme that cuts across various topical areas.

Finally the nature and extent of special or categorical funding for articulation and other collaborative activities comprises the fourth general theme, the alternative being the absorption of such costs by institutions as part of their regular operating budgets with few special projects to promote transfer. This theme is related to the previous three insofar as both state-mandated and statewide policy implementation may be more expensive than voluntary; more localized activities and released time for faculty participation may be more costly than the assignment of nonteaching personnel to articulation and transfer activities as part of their regular duties.

Still another aspect of this theme is the appropriation of special funds for projects to encourage, increase, facilitate, and improve transfer opportunities for community college students.

DIFFERENCES BETWEEN THE TWO STUDIES

Both the 1965 study and the present study focus on a small number of states that were selected because of the importance of their public two-year colleges and their geographical representation, but the two studies differ in four major ways: focus on state versus institutional practice; emphasis on institutional versus student data; nature of the personnel assisting in the studies; and criteria of effectiveness.

In contrast to the 1965 study, this one emphasizes the role of the 11 states in promoting postsecondary articulation and other types of collaboration—whether through their legislatures by statute and appropriations, their state coordinating agencies by policy or simple facilitation, or their system governing boards by policy guidelines, regulations, or provision of incentives for cooperation. The earlier study found little such involvement—in large part because state-level agencies and boards for higher education were far less common then than today—and thus it focused on institutional-level practices of the 43 state colleges and universities, teachers colleges, technical institutions, and private colleges and universities in the 10 states selected for study.

The second major difference between the two studies is in the nature of the information that the staff collected in each state. The earlier study focused heavily on data about transfer students themselves—their enrollment patterns, their academic performance, their questionnaire responses, and other data that made comparisons with "native" students possible. A primary reason for this emphasis was the need to demonstrate the capability of what were then junior colleges to offer quality lower-division programs to prepare students to complete baccalaureate-degree programs in a wide range of institutions. The need for this kind of data collection and analysis may be as great now as in the 1960s, but the cost of repeating this aspect of the study would now be prohibitive. Staff sought copies of longitudinal studies that have been conducted by particular states or groups of institutions as part of the current investigation but found none that were comparable to earlier ones in scope and depth in spite of advances made since the 1960s in computerized student data bases. As a result, this report focuses on institutional and intersegmental practices regarding transfer students.

Another difference between the two studies concerns the personnel involved in the various states as liaisons to the project—in the earlier study, primarily registrars and admission officers together with some academic administrators and professors of higher education whose students assisted in student data collection were interviewed, rather than the coordinating board staff and the system administrators in the current study. The difference reflects not only methodology but also shifts in the locus of responsibility for articulation and transfer during the past 25 years from admission and records personnel to faculty and academic administrators.

Finally, the analysis of student data and other information gathered in the first study was designed to discover differences in student performance in different types of institutions in different states and to relate those differences to both student and institutional variables. The present study emphasizes policies and practices that appear to either facilitate or hinder the flow of students from community colleges through four-year institutions, without relating them directly to student performance.

ORGANIZATION OF THE REPORT

Chapter 2 compares the educational and societal environments in which the two studies were conducted—one in the early 1960s and the second in the mid-1980s. The comparison does not deal with the differing methodologies of the two studies but provides instead a snapshot of conditions "then" and "now" regarding admission, enrollment, affirmative action, financial aid, remediation, governance, and community college mission that may be useful in understanding the need for the present study and its conclusions, compared with those of the 1965 report.

Chapters 3 through 9 set forth information from the states that were visited—Chapter 3 with generalizations about the four basic dimensions of the inquiry, and the later chapters with policies and practices in its 10 topical areas.

Chapter 10 presents the conclusions and compares them with conclusions from the first study.

Chapter 11 presents concluding comments on state and faculty roles and responsibilities, special funding, and articulation as collaboration.

National guidelines for transfer and articulation are presented at the end of the book. The guidelines, reviewed in March 1990 by a panel of transfer experts convened by the American Association of Community and Junior Colleges, are designed to stimulate discussion among states and institutions as they review and revise their transfer and articulation policies.

Appendix A describes the methodology for the present study and includes material on the topical areas of the investigation, the selection of the 11 states that were visited, the personnel who were interviewed, and the staffing and procedures of the study.

Finally, Appendix B presents a brief profile of each state that staff visited and includes five kinds of information about it: its numbers and types of postsecondary institutions, structure of governance, undergraduate enrollments, admission policies, and its economic and demographic context for higher education. These profiles are limited to undergraduate education since the study deals with relationships between community colleges and four-year institutions.

2.
TWO CONTEXTS: EARLY 1960s TO MID-1980s

One reason for a new study of articulation and transfer in postsecondary education is the extent of differences between conditions in the early 1960s and the mid-1980s. Some of the differences have resulted from federal legislation and related appropriations, others from demographic trends, and still others from the very nature of institutions of higher education—particularly the nation's two-year colleges.

The following pages compare the context of the early 1960s with that of today in seven key areas: governance, community college mission, enrollments, admission, remediation, financial aid, and affirmative action.

GOVERNANCE

In the early 1960s, state boards that plan for and coordinate all public postsecondary education were not yet established in most states. Instead, four-year institutions were governed by either institution-specific boards or boards that were responsible for particular types of institutions (or institutions with branch campuses). Two-year colleges tended to be part of elementary-secondary school systems at the local level and under the board of education responsible for these systems at the state level. In some states, two-year colleges were branch campuses of a state university or, if not a branch, under the jurisdiction of a university system.

Following the enactment of the federal Higher Education Act of 1972, states either established what was then known as a "1202 Commission" for planning and coordination, or designated an existing state board to meet federal requirements. Although changes have occurred in these commissions since the 1972 statute, with the federal government no longer much interested, these commissions remain in place and have often been strengthened by new statutes enacted by the states.

Junior colleges have become comprehensive community colleges and state legislatures have established a new type of state board with varying responsibilities for governance, regulation, coordination, and leadership of these institutions. Community colleges have come under locally elected or appointed boards that have no responsibility for the K-12 public school system.

COMMUNITY COLLEGE MISSION

The major junior college functions in the early 1960s were general education, transfer, and preparation for entry-level employment, with

remediation offered for those not quite ready for college-level work. The major clientele were recent high school graduates from families generally above the poverty level. Clear distinctions were made between transfer and vocational education programs, in part because of a federal requirement that the latter be declared "terminal" as a condition of funding. Junior colleges had open-admission policies, and most did not make special efforts to recruit students from ethnic minority and other disadvantaged groups. Many larger cities did not have public junior colleges.

In the mid-1980s a third "C" had been added to describe the community college—"comprehensive"—with respect to the kinds of programs and services offered to an increasingly diverse student body. Continuing or community education for those not seeking degrees is now a major function, together with developmental or transitional programs for students with serious educational deficiencies. The federal incentive is no longer a factor, but different types of associate degrees may be offered to distinguish between programs—"arts" for transfer and "applied science" for occupational programs. However, increasing numbers of students in occupational programs are seeking opportunities to complete baccalaureate degrees.

Community colleges have established equal educational opportunity and affirmative action programs to attract, prepare, and enroll students from previously underrepresented groups. They have been successful in attracting disadvantaged students with various deficiencies in preparation, including some whose native language is not English. Building new community colleges in highly urban areas has fostered the movement of disadvantaged students into these institutions, sometimes to earn high school diplomas or to acquire basic skills in courses that do not yield degree credit.

ENROLLMENTS

The number of students planning to attend college was increasing in the early 1960s, and two-year colleges were being established to accommodate some of the expected growth in numbers of lower-division students with baccalaureate-degree goals.

In the mid-1980s the number of college-age youth was decreasing, and colleges and universities are often in competition for the same students in order to maintain their enrollments. Of those who enroll, numbers of part-time and evening-only students have been increasing as a proportion of the total undergraduate enrollment. At the same time, there are more new students needing special assistance—for example, financial aid, tutoring, and services for those with disabilities.

ADMISSION

Increasing demand for higher education gave some four-year institutions a rationale for raising freshman admission standards and requirements as a way to limit lower-division enrollments in the early 1960s.

Dissatisfied with the quality of the preparation of high school graduates, some four-year institutions are now raising freshman admission requirements even in the face of a smaller number of potential students in the

college-age cohort. Increases in requirements often involve greater prescription of high school course-taking patterns, as well as higher grades, rank in class, or aptitude test scores.

REMEDIATION

In the early 1960s junior colleges were viewed as the appropriate institution for "late bloomers" who were not ready for college when they graduated from high school. Four-year institutions undertook some remediation of basic skills deficiencies but did not assign it a high priority among the programs and services they offered.

Now the underpreparation of students who are eligible for admission to college is a major problem in many but not all states and institutions. To combat it, institutions are requiring assessment of basic skills, placement in remedial courses, and some testing to demonstrate the achievement of prescribed levels of competence as students progress through their collegiate programs.

FINANCIAL AID

Except for veterans' and Social Security benefits, federal student financial aid was limited for the most part to institutionally administered loans under the National Defense Education Act in the early 1960s. The impact of the military on college enrollment and persistence was high for young men, in terms of both the threat of being drafted into the armed services if not enrolled and of veterans' benefits for enrolling in college after service.

Now federal, state, and institutional student aid has become available to students in the form of grants, loans, and work-study programs which, when packaged with other types of funds, have reduced the financial barrier to students enrolling in the institution of their choice as freshmen. And the armed services are attempting to provide an attractive alternative to college for recent high school graduates and college and university dropouts, including educational benefits after leaving the service.

AFFIRMATIVE ACTION

The goal for planners was the provision of educational opportunity for a projected pool of eligible applicants for admission that was undifferentiated with respect to sex, ethnicity, or socioeconomic background.

In the mid-1980s institutions have become conscious of the underrepresentation in higher education of certain ethnic minority and low-income groups who tend to enroll in community colleges, if at all. Some states and institutions have mounted programs to improve educational equity for ethnic minority and other disadvantaged youth and to increase their enrollment in four-year institutions as freshmen or transfer students.

ARTICULATION IN GENERAL

In the early 1960s:

- Institutional articulation was the thematic approach;
- Policies were directed at the local and institutional levels;

- Analysis was campus-oriented.

In the mid-1980s:

- Emphasis is on systemwide policy development in articulation;
- Policy is often directed by legislative fiat and state board policy;
- Analysis is access-oriented.

3.
MAJOR DIMENSIONS OF THE STUDY

As noted in Chapter 1, four general dimensions pervade this inquiry into relations between community colleges and four-year institutions: the role of state legislatures and agencies in regulating, funding, and policymaking to facilitate transfer and articulation; the feasibility of voluntary statewide policies, practices, and programs, compared with those reached by groups or pairs of two- and four-year institutions or departments therein; the involvement of faculty in relation to that of counselors, registrars, admission officers, and other administrators in articulation activities; and the incidence of specially funded programs and activities in comparison with those relying on contributed time or other budgets for expenses. These dimensions evolved from an analysis of conditions in the early 1960s at the time of the first study and were selected for special attention in the 11 states visited for this study in order to understand better the forces that are now shaping articulation and transfer.

The emphasis placed on the state as the primary entity for study is not intended to downplay the roles of various national organizations in promoting better opportunities for transfer and smoother articulation, but recognizes the necessity for specific policies and actions that fit state and local conditions. The chief executive officers of these national organizations are members of the National Advisory Committee to the study: the American Association of Community and Junior Colleges and the American Association of Collegiate Registrars and Admissions Officers, both of which were represented on the advisory committee for the first study, and the American Council on Education. Independent colleges and universities are represented on the current advisory committee by the chief executive officer of the Association of Independent California Colleges and Universities, rather than the national association as in the earlier study.

STATE-MANDATED POLICIES AND PRACTICES

For purposes of this analysis, "state" refers to legislatures, agencies for statewide planning and coordination, and governing boards for multi-institutional systems of colleges and universities. "Mandated" refers to statutes, resolutions, and budget language adopted by state legislatures that may be laws governing specific practices—for example, expressions of intent, priorities, or concern—that community college transfer students be treated like "native" students with respect to assessment; and directives to others to establish

certain policies or practices. For example, the legislature may either regulate directly with respect to access and admission or may direct either the coordinating agency or the governing board(s)—or both—to adopt policies or regulations that carry out legislative intent. Similarly, coordinating agencies may either adopt regulations or policies that are applicable to state institutions or require governing boards for public institutions to adopt regulations or policies that are consistent with legislative intent.

The question here is how far and in what areas is legislative intervention appropriate in order to secure or maintain conditions that enable students to move from high schools to two-year colleges to institutions that award the baccalaureate degree.

State-level interest in admission and articulation has been increasing on the part of the legislative and executive branches of government during the past decade, particularly in states where new agencies for planning and coordination were established in the 1970s in response to federal legislation and later revamped in order to meet state planning and coordination needs more effectively.

Colorado, Florida, Illinois, Washington, and Minnesota provide examples of state-level agencies that have been directed by their legislatures to establish policies relating to the flow of undergraduate students between and among the institutions that they coordinate.

In Colorado, the legislature assigned major responsibility for admission and articulation policy making to the Colorado Commission for Higher Education when it reconstituted the commission in 1985. In response to this legislative direction, the commission has adopted freshman and transfer admission standards for each of Colorado's public institutions and is conducting studies of other aspects of student flow and articulation.

Florida appears to be pre-eminent among the states studied with respect to the scope and depth of state-level policy making by the State Board of Education at the direction of the legislature. However, the state-level participants differ from those in Colorado in that Florida's Postsecondary Education Planning Commission has been far less directly involved than the Articulation Coordinating Committee whose members are appointed by the Commissioner of Education. The Articulation Coordinating Committee is convened by a high-level member of the commissioner's staff and makes recommendations for implementing legislative directives to the commissioner for rule making by the State Board of Education. Two major legislative initiatives that the committee has had an important role in implementing are Florida's College-Level Academic Skills Test program and its articulation agreement, under which students with an associate in arts degree have certain guarantees relating to transfer admission and the awarding of baccalaureate degree credit.

In Illinois, the state legislature directed the Board of Higher Education to adopt an admission policy for freshmen with baccalaureate degree objectives that emphasizes high school preparation in academic subjects for those entering transfer programs in community colleges or degree programs in the public universities. While the legislature has

delayed the date for adopting and implementing this new policy, its intent to assure some consistency among public universities in admission policies or, failing that, greater clarity, is significant in terms of what some regard as legislative intervention into an area of policy that has heretofore been reserved to institutions.

In Washington State, the legislature has also given the responsibility of policy making in the area of student flow and articulation to its recently reconstituted Higher Education Coordinating Board. The development of policies to be proposed to the Board will probably continue under the auspices of the voluntary Washington Council on High School-College Relations and, more specifically, its Intercollege Relations Commission. The council and its commission also serve the State Board for Community College Education in identifying, analyzing, and proposing solutions to problems relating to articulation and transfer.

The council is the key group that facilitates the flow of community college students to four-year institutions in Washington, and the Higher Education Coordinating Board's new responsibility is not intended to diminish or replace the council's role but instead to provide an opportunity for agreements that are reached voluntarily to become state policy.

Minnesota offers an example of a legislature delegating responsibility that is in turn delegated to the public institutions. Its Coordinating Board for Higher Education has statutory authority for monitoring credit transferability, but articulation activities involving the community colleges and the state's two public university systems appear to be independent of legislative or board mandates. State officials are giving direction to activities leading to the better definition of institutional mission, with particular attention on the performance of community college functions by both the state universities and the area vocational/technical institutes; articulation of courses and programs offered by the locally governed institutes and the state-governed community colleges; and the expansion of baccalaureate-degree opportunities for residents of urban areas now served only by community colleges.

VOLUNTARY STATEWIDE AND INTERINSTITUTIONAL AGREEMENTS

Statewide articulation policies that are applicable to all public institutions tend to be legislatively mandated, but some states have a history of voluntary articulation structures that predate legislative intervention in this area. Statewide agreements are difficult to establish with any significant level of specificity because of differences in mission, selectivity, and demand for access to the various four-year institutions in any state. Thus, voluntary agreements may include a particular system or groups of four-year institutions and the state's community colleges, or particular four-year institutions and their feeder community colleges.

Other kinds of agreements reached voluntarily often include faculty from particular departments or disciplines—for example, engineering, home economics, and English composition. California, North Carolina, South Carolina, and Illinois offer examples

of voluntary agreements that have been reached without legislative mandate.

The voluntary but state-supported Articulation Council of California has been operating for more than 65 years under several different organizational structures, none of which has yet been established in legislation. Council membership is drawn from the various systems or segments of California public and private education that provide financial support to staff the council's activities and personnel to participate on committees and task forces. The council differs from those described for other states in that it does not report or make policy recommendations to any state-level governing or coordinating board or agency and is thus largely dependent on voluntary compliance with any actions taken by its Executive Committee.

The Articulation Council of California reaches non-binding agreements that are in effect guidelines concerning articulation of curricula, which are the work of a set of liaison and ad hoc committees in subject-matter areas that in the past have included creative arts, English, engineering, and computer studies. While the University of California and the California State University systems differ in specific credit practices, both have statewide policies applicable to all campuses for the awarding of baccalaureate-degree credit for community college courses.

The California Legislature from time to time has considered proposals to recognize the Articulation Council in statute, to appropriate funds to it directly, and to enact laws that would establish specific state policy relating to transfer admission and articulation. No such enactments have been signed into law to date, with the exception of statements of intent in 1974 with respect to the priority in admission that the University of California and the California State University should give transfer students from community colleges.

In North Carolina, the Joint Committee on College Transfer Students is a voluntary organization sponsored by the North Carolina Association of Colleges and Universities. The 12-member committee is appointed by the University of North Carolina, the State Department of Community Colleges, and the Association of Independent Colleges and Universities, and four ex-officio members from the appointing bodies and the past chair of the committee. It is staffed by the University of North Carolina General Administration, which publishes *Guidelines for Transfer Recommendations of the Joint Committee on College Transfer Students* (1980) and *Policies of Senior Colleges and Universities Concerning Transfer Students from Two-Year Colleges in North Carolina* (1986). (The University of North Carolina includes all public four-year colleges and universities and has a Board of Governors for its 16 constituent institutions.)

Under the guidance of the South Carolina Commission on Higher Education, the public four-year colleges and universities have reached an agreement to award transfer credit for 43 courses offered by the two-year institutions, provided that students taking such courses are registered in programs leading to the associate in arts or science degree. Individual four-year institutions publish lists of additional courses for which they award transfer credit and that they may prefer over courses on the approved list.

In Illinois, a voluntary community college-senior college transfer coordination group meets periodically to both solve and prevent articulation problems. One product of the voluntary activity is the Articulation Compact for statewide subject-matter agreements that institutions adopt—a compact that the Illinois Community College Board endorsed in 1976.

More common than statewide agreements, however, are those reached voluntarily by small groups, pairs of institutions, or particular divisions within them that are then viewed as binding on participants. Some involve private universities and public community colleges—for example, the Arizona State University and its Maricopa Community Colleges and the University of Miami and Miami-Dade Community College. Others involve a particular campus of a state university system and its nearby community colleges—for example, the University of California, Davis, and campuses in the Los Rios Community College District of Sacramento County. State universities with selective admission policies and limited-access programs, such as the University of Minnesota in Minneapolis, may decentralize responsibility for transfer admission and articulation to particular divisions such as its School of Management to work out agreements with individual community colleges.

In Arizona, the Maricopa Community Colleges and the Arizona State University are mutually interdependent—the former on opportunities for their graduates to complete baccalaureate-degree programs and the latter on transfer students to enroll in upper-division programs. Good articulation agreements arrived at cooperatively and voluntarily promote and enhance this interdependence. Agreements include course equivalency guides, articulation of specific degree programs, and the electronic transmission of community college transcripts.

Two factors that mediate against the enforced implementation of statewide agreements are the constitutional autonomy of some state universities, and the delegation of responsibility for admission and curricular decisions by university governing boards to the faculty. Where one or both of these factors are operative, legislatures and state coordinating boards are unable to give more than very general policy direction to these institutions regarding transfer and articulation—for example, that they adopt policies and practices that are consonant with legislative intent.

Still another limiting factor in statewide policies and agreements is the inability of institutions to do the kind of enrollment planning that fully implements legislative intent regarding transfer and articulation without either denying "native" students their right to progress into upper-division programs or leaving places empty in high-demand programs. For these reasons, statewide policies, whether mandated or reached voluntarily, may become guidelines for action or minimum standards for selection of students in their local implementation. Flagship state universities under pressure to admit all qualified freshman applicants and with perhaps a preference for freshmen over transfer students from community colleges may not be in a position to comply with state policies that call for equal access for freshman and transfer students or priority for transfers who have completed an associate-degree program.

FACULTY INVOLVEMENT IN ARTICULATION

The nature and extent of faculty participation in transfer and articulation activities was selected for study on the grounds that there may have been a shift since the early 1960s toward greater sharing of responsibility for reaching agreements. Perhaps because there were few agencies for statewide planning and coordination at the time of the earlier study, agreements about the relatively low flow of transfer students from junior colleges to four-year institutions were often left to registrars and admission officers who decided whom to admit and how much credit to award them. The national and state organizations of these administrators were actively involved in developing guidelines and principles for the treatment of transfer students. State associations in Michigan, Kansas, Florida, North Carolina, and Illinois were among the most active in this regard during the earlier study. These groups of admission officers and registrars continue to actively participate in articulation activities, implementing agreements while sharing responsibility for their development with faculty members.

Other active players then and now are college and university counselors who had less to do with developing policy and reaching agreements than with monitoring their results in terms of transfer student performance and satisfaction. For example, two-year college counselors in Illinois held conferences with their former students at the four-year institutions to which they had transferred in order to learn about their grades after transfer, problems in transferring credit, weaknesses in preparation, and other kinds of problems in making the transition to a university. Community college counselors play a critical role in helping their students choose the institutions and programs into which they will transfer and help them plan their associate-degree programs in accordance with articulation agreements. The establishment of transfer centers on campuses of the California Community Colleges in 1985–86 helped clarify the role of transfer counselors in those institutions.

The 11 states in the study vary more now than in the 1960s regarding the role of the faculty in articulation activities, particularly faculty in the community colleges, but the overall trend has been toward greater faculty participation. The traditional role of community college faculty has been to implement articulation agreements concerning courses and curricula by advising students about the transfer value of their courses, rather than to negotiate such agreements. This limitation on the faculty role stemmed in part from the junior colleges' closer resemblance to high schools than to higher education institutions with respect to faculty roles and responsibilities. As these colleges became more closely identified with higher education in the 1970s, their faculties began to seek a stronger role in course and program articulation with faculty in the four-year institutions to which their students transferred—not by replacing registrars and other administrators, but by sharing responsibilities in a way that has characterized faculty roles in four-year institutions in the past.

Several reasons explain the traditionally stronger role played by faculty in four-year institutions in articulation. The first is the obvious one: faculty in the institutions granting

the baccalaureate degree want control over the nature and quality of the courses that satisfy various degree requirements. A second is that large, complex universities often decentralize responsibility for articulation to their various colleges and departments and then to the faculties of these academic units. Finally, university faculty members usually have lighter teaching loads than those in community colleges and thus have greater flexibility in scheduling time to participate in articulation activities. Examples of significant faculty participation in statewide articulation-related activities are found in Florida, California, and Texas.

Florida's common course-numbering system and the California Articulation Number system both require extensive faculty participation from both community colleges and universities—on discipline-related committees to oversee the assignment of common course numbers in Florida, and in regional groups in California to work out agreements about the addition of a common number to institutional course numbers in order to identify general equivalency across institutions. Community college and university faculty members also participate jointly in defining basic skill competencies for Florida's College-Level Academic Skills Test and for California's intersegmental statements of expected competencies for high school graduates enrolling in college-level courses.

In Texas, the legislature has given the Coordinating Board for the Texas College and University System responsibility for approving and publishing a transfer curriculum for each major subject-matter area that includes general course descriptions. It is recommended but not mandated for adoption by all institutions in the system. Broad representative committees are appointed to develop and recommend the transfer curricula to the board for approval, with review and revision as necessary, conducted at least every five years. Areas for which curricula have been approved and published include engineering technology, criminal justice, home economics, music, and business administration. While not exclusively a faculty function, faculty from community colleges and four-year institutions play an important role in developing the transfer curricula for their special areas of expertise.

The Articulation Council of California provides a final example of increased community college faculty participation in statewide articulation activities. While faculty served on subject-matter liaison committees in the past, only in recent years has the community college faculty been accorded membership on the council's board of directors—the chancellor appoints a representative from the statewide Academic Senate. This involvement of a formal community college faculty organization appears to be unique among the states in the study, except for Minnesota, where the faculty collective bargaining agent has the power to appoint representatives to formal interinstitutional committees and task forces. Elsewhere faculty tend to be represented in state-level articulation activities by academic administrators or individuals who do not represent faculty councils or senates.

SPECIAL FUNDING FOR TRANSFER AND ARTICULATION

Special state funding for programs to increase or facilitate transfer and articulation was found only in California. Elsewhere, special funding

apparently comes in the form of foundation or federal grants. For example, the Ford Foundation has made a series of grants to urban community colleges in 12 states to improve transfer opportunities for disadvantaged students; the Andrew W. Mellon Foundation has made grants to independent colleges and universities to work with community colleges on transfer and articulation; and the federal government has made grants from time to time through its Fund for the Improvement of Postsecondary Education for projects related to transfer, such as one to the City College of San Francisco in order to increase the number of Black students who transfer to San Francisco State University.

In contrast to the executive and legislative branches of government in other states, those in California have been quite aggressive in proposing new programs to increase the flow of community college transfer students and to overcome articulation barriers. The most notable budget action occurred in 1985 when Governor Deukmejian's budget included funding for new transfer centers to be established on several public university campuses as well as in community colleges. His budget also provided funds for an interactive computerized information system (Project ASSIST, to be described later) for use by transfer students, counselors, and others attempting to make plans for and decisions about transfer.

4.
ADMISSION POLICIES AND PRACTICES

Questions about the admission policies and practices of four-year institutions regarding community college transfer students fall into four general areas of inquiry: requirements, access, exceptions to requirements, and the role of the associate degree.

The first and most important question asks what institutions with selective freshman admission policies require of applicants seeking admission with advanced standing. Such requirements may include making up deficiencies in high school preparation in prescribed subjects, completing a specified amount of transfer course credit, earning a certain grade-point average in courses for which transfer credit may be awarded, and demonstrating certain proficiencies by means of tests rather than course grades.

Dissatisfaction with the preparation of freshmen who are recent high school graduates is leading many public universities to raise freshman admission requirements and standards, usually by requiring candidates to complete a prescribed pattern of high school courses in English, mathematics, science, history, and other academic subjects. This requirement may be in addition to standards involving high school grade-point average, rank in class, and admission test scores.

These new admission requirements are causing problems because of uncertainty about what is to be required of those applicants for advanced standing who did not meet the requirements on graduation from high school or who graduated before the new requirements were implemented.

A second problem concerns admission to "limited access" or "impacted" programs and campuses—where the number of qualified applicants exceeds the number who can be enrolled because of limited resources. Although declining enrollments are a problem for some institutions, others—particularly the "flagship" campuses of the state university systems—continue to have more qualified freshman and transfer applicants than they are able to enroll. Thus they are able to provide applicants for advanced standing only limited access to such professional programs as engineering, business administration, architecture, and other career fields that are attractive to undergraduate students. The problem is often two-fold: additional requirements that transfer applicants must meet in order to be considered for admission; and

uncertainty about admission even if they meet these additional requirements.

A related question asks about exceptions to stated admission requirements and standards that may be generally made for transfer applicants or for specific groups, such as underrepresented ethnic minority or disadvantaged applicants. This issue involves both the size and characteristics of the transfer group that may be admitted as exceptions and the nature of the waivers allowed.

The fourth question focuses on the role of the associate degree as a means of guaranteeing admission with junior standing and full transfer credit, together with contractual and other types of agreements.

ADMISSION REQUIREMENTS AND STANDARDS

Differences among the states studied for this report in regard to undergraduate admission are the most striking of all examined as a part of the inquiry. These differences include not only how policies and practices are established, but also their degree of selectivity, specificity, and uniformity. The states in the study subscribe for the most part to open-door admission policies for their community colleges and to access to four-year institutions for community college transfer students who have done satisfactory work in lower-division transfer courses. Generally, the amount of attention that states and institutions give to the admission of freshmen exceeds that given to admission of students with advanced standing. As freshman requirements and standards have increased, questions about the need for changes in requirements for transfer applicants demand answers.

In understanding these differences among the states, a distinction between admission "requirements" and "standards" may be helpful. In this report, the term requirements refers to the types of criteria used to admit applicants, such as high school grade-point average, rank in class, course completion, or admission test scores, while the term standards refers to specific minimum achievement of these requirements, such as a grade-point average of 2.5 on a 4-point scale or rank in the upper half of the class. Some states and institutions maintain general requirements for admission policies but allow specific standards to vary across institutions and programs from year to year in response to demand and other factors. Others specify both requirements and standards in their admission policies but regard them as minimal to produce an eligibility pool from which institutions or divisions then select the best-qualified applicants. And still others guarantee admission to all applicants who meet minimum standards. Moreover, public four-year institutions in particular states or university systems may have either common requirements but different standards for freshman admission or different types of requirements and standards.

A major finding of this study is the lack of clarity in many states about the requirements and standards that transfer applicants must meet in order to be admitted with advanced standing—particularly those who would not have been eligible for freshman admission on the basis of their high school performance. Increased requirements and standards for

freshman admission tend to increase transfer applicants' uncertainty about their eligibility for admission to particular institutions and programs with which they have attempted to articulate their lower-division courses of study. This uncertainty is not diminished by those universities whose articulation guides for community colleges list in considerable detail the sequences of courses to be taken by students pursuing particular baccalaureate-degree majors but also caution students that the completion of such courses with satisfactory grades does not insure their admission with advanced standing to these programs.

An uncertain but probably increasing proportion of community college students whose goal is a baccalaureate degree would not have been eligible for admission to selective institutions as freshmen on the basis of their high school record and may be required to meet different requirements and standards than transfer students who would have been eligible if they had applied. Space permitting, the latter group may be eligible to transfer at any time provided that their community college grades are satisfactory. However, conditions under which the former group may apply for advanced standing admission are becoming less clear as freshman admission requirements increase.

For example, greater prescription of academic courses to be taken in high school—such as a certain number of foreign language courses, rather than the demonstration of communication and computational competencies as a condition of admission—is creating a dilemma for community college students attempting to make up high school deficiencies. If they took no foreign language courses in high school, may they make up this deficiency by enrolling in college-level courses for transfer credit and, if so, how much college credit is equivalent to a three-year sequence of high school courses? Or should the college course be regarded as remedial and the student not allowed to receive transfer credit?

Similarly, most four-year colleges and universities specify some minimum grade-point average or rank in class below which freshman applicants are ineligible for admission; but although failure to meet this standard is not a serious deficiency for community college transfer students, there is no standard for overcoming it. For instance, in order to remove this type of high school deficiency, how long and for how much transfer credit should such community college students be enrolled? What grade-point average in transfer courses should they be required to earn? In Florida, students who earn an associate in arts degree become automatically eligible to transfer, but California prescribes the amount of transferable credit and grades to be earned in order to be able to transfer.

Among the states in the study, California and Colorado appear to have done the most to clarify the conditions that community college students must satisfy to overcome deficiencies in high school preparation or performance in order to be eligible to transfer with advanced standing. However, in neither state does eligibility guarantee admission to a particular campus or program and in both states the standards vary among university systems.

In California under new admission requirements that are applicable to students who

graduated from high school in June 1986 or later, community college students and others applying for admission with advanced standing to the University of California must meet one of three sets of requirements:

1. If you were eligible for admission to the university when you graduated from high school—meaning you satisfied the subject, scholarship, and examination requirements—you are eligible to transfer if you have a C (2.0) average in your transferable college coursework.

2. If you met the scholarship requirement but did not satisfy the subject requirement, you must take college courses in the subjects you are missing to be eligible to transfer. You will need to earn a grade of C or better in each of these required courses, and an overall C (2.0) average in all transferable college coursework. If you completed less than 12 quarter or semester units of transferable college coursework, you must also satisfy the examination requirement for freshman applicants. The high school subject requirements are U.S. history, English, mathematics, laboratory science, foreign languages, and college-preparatory electives for a total of 15 Carnegie units.

3. If you were not eligible for admission to the University when you graduated from high school because you did not meet the scholarship requirement, or you did not meet the scholarship requirement and did not complete all the required high school subjects, you must:

   a. Complete 84 quarter units or 56 semester units of transferable college credit with a grade-point average of at least 2.4, and satisfy either (b) or (c) below.

   b. Take college courses in the subjects you are lacking and earn a grade of C or better in each one. (The University will waive up to two units of the required high school coursework except in mathematics and English.)

   c. Complete one college course in mathematics, one in English, and one selected from either U.S. history, laboratory science, or foreign language. You must earn a grade of C or better in each course. The course in mathematics must be equivalent to two years of high school algebra (elementary and advanced) and one year of geometry, or it must have these courses as prerequisites. All courses, with the exception of mathematics, must be transferable.

The scholarship requirement defines the grade-point average you must attain in the required high school subjects to be eligible for admission to the University. If your high school GPA is 3.3 or higher, you have met the minimum requirement for admission to the University. If your GPA is below 3.3 but above 2.77, you have met the minimum requirement if you achieve a satisfactory college entrance test score related to your GPA (University of California, 1986).

The trustees of the California State University have adopted new freshman admission requirements for implementation over the next several years that prescribe a similar pattern of high school subject preparation in

addition to previous standards relating to grade-point average and admission test scores. They are now adopting new requirements for transfer applicants who did not take this prescribed pattern of high school courses. Until now, transfer applicants who do not meet the State University's high school scholarship standards must have completed at least 56 semester or 84 quarter units of transfer courses with a grade-point average of 2.0 or better.

In Colorado the Commission for Higher Education recently adopted new policies for the admission of both freshman and transfer students to its public four-year institutions, with standards varying among campuses. The common standard is an index based on high school grades and admission test scores. Community college transfer students must meet one of the following standards in order to be eligible to transfer with advanced standing:

1. Have earned fewer than 30 units of college credit and meet the first-time freshman standards of the receiving institutions;

2. Have earned 12 to 29 hours of college credit with a grade-point average of 2.5 if transferring to a "selective" or "high admission" institution, or 2.0 to a "moderately selective" one;

3. Have earned at least 30 units of college credit with a grade-point average of at least 2.0 in all previous college work; or

4. Be enrolled in a state-approved transfer agreement and meet the minimum academic qualifications outlined therein.

The Colorado policy does not require the completion of specific high school courses.

Both North and South Carolina have adopted new statewide requirements for freshman admission to their public four-year colleges and universities, effective for the fall 1988 term. In addition to whatever requirements and standards are now in effect, institutions in both states will require freshman applicants to complete a prescribed program of academic subjects in high school. In South Carolina, this program includes four years of English, three years of mathematics, two years of laboratory science, two years of foreign language, one year of U.S. history, one-half year of economics, one-half year of government, one year of physical education or ROTC, one additional year of social studies, and one additional academic elective.

Neither state has yet determined its policies regarding applicants who do not meet these subject requirements—whether or not to grant certain waivers, require deficiencies to be made up in noncredit courses before admission, or allow deficiencies to be made up in college-credit courses in two-year institutions before applying for admission as a transfer student. The problem of making up high school deficiencies may be serious for residents of areas that are not now served by two-year institutions approved to offer transfer courses and programs.

SELECTION AMONG ELIGIBLE APPLICANTS TO LIMITED ACCESS PROGRAMS AND CAMPUSES

As was true 25 years ago, there is undoubtedly a place in at least one public four-year

institution in each state for every qualified community college transfer student seeking a baccalaureate degree, but problems of matching students and institutions continue to limit opportunity. While some states and institutions depend heavily on community college transfer students for upper-division enrollment, others enroll a preponderance of first-time freshmen who, if they persist, leave relatively little space for transfer students. This problem of limited access or "impaction" is characteristic of professional programs like engineering as well as institutions and certain university campuses—those usually regarded as "flagship" campuses. When the number of qualified applicants for advanced standing exceeds the number who can be enrolled, the best qualified are usually selected—sometimes taking into account such variables as place of residence, ethnicity, amount of coursework completed, or enrollment in a community college rather than another four-year institution.

Legislatures in Florida and Illinois established their newest universities as upper-division and graduate institutions, thus eliminating at that time the problem of limited access for transfer students to these campuses and most programs. California's 1960 Master Plan for Higher Education called for a reduction in the proportion of its universities' lower-division enrollments to 40 percent of their undergraduates, with a concomitant increase in community college enrollments. While Governors and Sangamon state universities in Illinois have remained upper-division and graduate institutions, the regional state universities in Florida are now permitted to enroll limited numbers of new freshmen. The California State University enrolls more community college transfer students than freshmen who are recent high school graduates, while the University of California is faced with an increasing number of well-qualified freshman applicants that forces some campuses to choose between them and transfer applicants in deciding whom to admit.

One approach to reducing the problem of limited access involves the development of closely articulated lower-division programs by pairs of institutions, with some type of guarantee that community college students who complete such programs with grades that are specified as part of the agreement will be admitted to the university with full credit for the lower-division. Arizona, Colorado, and California all offer examples of this kind of arrangement: between the Maricopa Community Colleges and Arizona State University, where limited access is not a problem because of the university's heavy dependence on transfer students; between the Los Rios Community Colleges and the University of California, Davis, where undergraduate enrollments have been impacted; and between the Community College of Denver and Northern Colorado State University, to encourage rather than control the flow of transfer students to the university.

While the contractual type of agreement offers promise of insuring transfer opportunities, it suffers from at least two conditions:

- Universities are reluctant to guarantee admission to transfer students two years before they are eligible to apply, as opposed to giving them simple priority consideration over other applicants; and

- They feel unable to specify in advance the course grades or grade-point average that must be earned in order to be competitive.

Furthermore, such agreements may very well limit opportunity for community college students who are not yet ready to make a decision about transfer or wish to keep their options open.

A compromise that may be more acceptable to institutions with limited-access programs is the publication of the criteria to be used in selecting among transfer students who meet minimum requirements but without commitment to a specific standard—for example, announcing that grades in mathematics courses are a criterion, but not publishing specific grades or grade-point averages that are required. The California State University follows this practice of publishing criteria for selecting students for limited access programs on its 19 campuses in its systemwide bulletin for counselors.

The problem is not confined to programs in four-year institutions. A recent study found that 78 percent of two-year institutions have one or more programs that have admission requirements that are different in selectivity than are those for the institution generally (American Association of Collegiate Registrars and Admissions Officers, 1986). Furthermore, some "native" students in four-year institutions are being turned down when they apply for admission to upper-division programs that have limited space. In almost all cases, impacted programs admit the best academically prepared transfer applicants from two-year colleges—particularly disadvantaged students who may not be able to compete successfully with native students for admission to such programs.

A variation of the contract approach is the joint admission programs as practiced by some institutions in the State University of New York. In September 1985, some four-year colleges of arts and science cooperated with two-year public colleges in admitting freshmen who would begin their work in the two-year colleges and be guaranteed a place in the junior class when they completed an associate degree and met other conditions. Supporters of the program cite benefits to students in both types of colleges, such as increased retention and better flow of transfer information. At the same time, critics point out inconsistencies in the treatment of students by the four-year institutions with respect to the baccalaureate-degree requirements that the students must meet after transfer. The mechanisms for joint admission are also a problem at this time (Lavin, 1986).

EXCEPTIONS TO REQUIREMENTS AND STANDARDS

Exceptions to admission requirements and standards may be made for applicants for advanced standing either in accordance with an announced policy governing such action or informally. Exceptions are more likely to be made for applicants who would not have been eligible for university admission as freshmen than for those with unsatisfactory community college grades.

Both California and Colorado have policies governing the admission of transfer students as exceptions to requirements. For example, the University of California provides for the

admission of 4 percent of each new transfer group under "special action" or as exceptions—2 percent for disadvantaged and 2 percent for other students with special qualifications—and the California State University has a similar policy. The new Colorado policy permits a 20 percent "window" as exceptions to the new standards.

The recent national survey of admission policies, practices, and procedures found that fewer exceptions are being made now than in 1979, including exceptions for ethnic minority students (American Association of Collegiate Registrars and Admissions Officers, 1986).

THE ASSOCIATE IN ARTS DEGREE

Florida is foremost among the states in the study in its reliance on the associate in arts degree to insure opportunity to transfer and full acceptance of community college courses for baccalaureate-degree credit. Beginning with a statewide articulation agreement governing the acceptance of a program of general education courses to satisfy baccalaureate-degree requirements, the Articulation Coordinating Committee of the State Board of Education moved in 1971 to modify the agreement to include the entire 60-unit associate in arts program for purposes of both admission to junior standing and acceptance of lower-division coursework. Making passing scores on the College Level Academic Skills Test is now a condition for receipt of the associate degree, as it is for the state university system sophomores when they move to junior standing.

Transfer agreements based on the attainment of the associate in arts degree simplify the articulation process for community colleges, the receiving institutions, and for the many students who pursue this type of curriculum, but they do not eliminate two major problems. The first involves special prerequisites that must be met in the community colleges in order to be admitted at the junior level to professional programs like engineering or other limited-access programs, thus in a sense reducing the value of the guarantee that receipt of the associate degree appears to offer. The second and potentially more serious problem is the increasing number of students with associate in applied science degrees who wish to complete baccalaureate degrees. Present agreements governing transfer and the acceptance of credit are not applicable to students with such degrees, except for the general education portion of their programs, and they are likely to lose both time and credit if they transfer. Better counseling into associate in arts degree programs is only a partial solution, since community college students often have the dual objectives of preparation for immediate employment at the technical level and completion of a baccalaureate degree, either on a part-time basis while employed or at some later time. In any case, transfer is an individual matter and each student is evaluated on his or her own merits in relation to which he or she is applying.

5.
ASSESSMENT AND REMEDIATION AS ARTICULATION ISSUES

Assessment and remediation are presented as related articulation issues because the demonstration of proficiency in communications and mathematics skills is becoming a requirement for upper-division standing—whether as a community college transfer student or as a native sophomore completing 60 units of coursework—with remediation prescribed for those who do not earn satisfactory scores on tests of basic skills. Assessment and related remediation policies vary across states, state systems, and institutions, but they have in common the principle that students should not progress to the upper division until or unless they have shown that they are proficient in the requisite basic skills.

None of the policies and practices examined in the study could be viewed as discriminating against students transferring from two-year institutions; in other words, baccalaureate institutions appear to be treating transfer students as they do their own in regard to assessment and remediation of basic skills before the attainment of upper-division standing, even when programs and practices differ among institutions in a particular state. The only exception to this finding is the practice of some four-year institutions allowing their own students who have not attained upper-division standing to enroll in advanced courses pending satisfaction of the basic skills proficiency requirement—an opportunity not available to community college students in similar academic difficulty.

TYPES OF BASIC SKILLS ASSESSMENT

Three general types or levels of assessment of basic skills at the lower-division level appear to encompass most programs identified in the 11-state study. They are: placement testing at the time of initial enrollment as a freshman, followed by remediation if necessary; retesting of basic skills after remediation of lower-division students whose placement test scores were unsatisfactory; and testing of all students as a condition of awarding upper-division status. Except in the third instance, choice of assessment instruments and standards for satisfactory performance may be statewide for all public institutions, systemwide for each type of institution, or unique to each institution and in some cases, to departments or divisions within an institution.

The most common practice continues to be placement testing of new freshmen, with remedial programs or services either mandated or recommended for students who do not attain satisfactory scores. "Testing out" of

remediation may not be required; instead, under some institutional policies, students may demonstrate proficiency by earning a satisfactory grade (C or better, or "pass") in the remedial program, followed by satisfactory performance in the college-level English composition course while in lower-division standing.

Florida and New Jersey (the latter not in the study) are best known at this time for their statewide placement testing programs for freshmen in all public postsecondary institutions. The Florida Legislature has announced its intention to discontinue the funding of remediation for college and university students with unsatisfactory placement test scores. It has not yet been able to do this in the community college system because of the impact such an action would have on access to postsecondary education for a very large number of Florida youth, particularly Black and Hispanic high school graduates.

In Florida and elsewhere, proficiency testing that is required for high school graduation does not provide a satisfactory substitute for placement testing of new freshmen, for reasons that are not entirely clear. The Washington State Pre-College Testing Program in the past offered in principle a compromise—the testing of college-bound high school seniors for advisement purposes—but it appears to be no longer acceptable because it is not a substitute for nationally normed assessment instruments.

California may be the best example of a state where freshman placement testing is in place in the university and state university systems—each with its own assessment instrument and norms for English composition—and in most community colleges, but with little commonality of instruments or standards among the three systems or within the community college system. Remediation as defined by each system is fully funded by the state, with no formal accountability to the system in terms of retesting with the same or different assessment instruments. While work has progressed steadily in the development and use of a common placement test for college-level mathematics, it now seems unlikely that a statewide assessment instrument will be developed for writing proficiency because of different philosophies about the need for and problems associated with common instruments and standards.

A second category of assessment practices reflected in state policy involves the retesting of lower-division students who did not demonstrate proficiency initially, as a condition for transferring or moving into upper-division standing. Students so affected are required to "test out" and may do so whenever they are prepared, but before becoming juniors. Limits may be set on the amount of remedial coursework that may be obtained at state expense and the amount and nature of the credit that may be earned, as well as the frequency with which students may apply to be retested.

The City University of New York and the Texas College and University System provide two examples of this approach to basic skills assessment. The City University has had this program in place in its two- and four-year institutions for several years, using a common test and standards for all students with baccalaureate-degree objectives, but has been

unable to enforce a policy that requires students to satisfy the requirement before moving to upper-division standing because of pressure to allow students with passing grade-point averages to continue taking courses while attempting to satisfy the proficiency requirement.

Texas has recently adopted its policy of requiring all students in its public colleges and universities to satisfy a basic skills proficiency requirement by the completion of 60 semester units as a condition of moving to upper-division standing. Like that of the City University of New York, the Texas policy is being implemented through the use of a common examination and standards that students may attempt to achieve at any time during their first 60 semester units, whether in a community college or a four-year institution. The policy was adopted after careful study of alternatives, particularly Florida's "rising junior exam."

A third category of assessment practices relating to articulation between two- and four-year institutions is the examination—usually in basic skills—that all students must pass at the end of their sophomore year as a condition for receiving an associate in arts degree, or transferring to a four-year institution with or otherwise attaining upper-division standing in a baccalaureate institution.

Until recently, Florida was the principal state in the study with this policy/program in place in all its public institutions. It differs from the second type of assessment primarily in its requirement that students take and pass the exam no earlier than the completion of their lower-division coursework and before receiving an associate degree or entering the upper division. Standards for passing each section of the three-part exam were set initially at a level that would not exclude an unduly large percentage of students who had received satisfactory grades in their lower-division coursework and will be raised as overall student performance improves. (Florida now allows students to take the test before the end of their sophomore year.)

Other states that are finding it necessary to develop assessment strategies related to accountability are considering a "rising junior exam" like Florida's program but are cognizant of several issues that relate to such an approach. The first pair of issues address the questions of whether students who have demonstrated proficiency once should be retested and, if so, whether their progress to a baccalaureate degree should be suspended on the basis of test scores if they are otherwise in good academic standing. Another issue involves the propriety of requiring the same standard of students completing different types of two-year programs in colleges with widely varying socioeconomic and ethnic mixes, especially when standards are not highly correlated with pass/fail rates.

A final issue is the extent to which this type of assessment discriminates unfairly against students whose native language is not English—Hispanic, Asian, some Black, and other limited-English-speaking students who are able to achieve satisfactory course grades and who may be proficient in their native language.

REMEDIATION

State and institutional practices related to the remediation of deficiencies in college students'

basic skills flow from those involving their assessment. Current practice ranges from an absence of remedial programs—based on the assumption that none are needed if students are admitted under selective admission policies or that remediation is not an appropriate university function and should be done elsewhere—to statewide programs to remediate deficiencies when students first enroll as freshmen and retest to demonstrate proficiencies when students leave the lower-division or graduate. Problems may be inferred from the range of practice: What is remedial, and is it the same for students at all levels? What role may community colleges play in offering remedial instruction for university students? Should some type of college credit be awarded for remedial instruction and, if not, how can financially needy students who need extensive remediation maintain financial aid eligibility until they graduate (or drop out)?

Remediation is a rather unique articulation issue in that it involves freshmen in universities and community college students as both freshmen and transfers with advanced standing.

States and institutions in the study vary with respect to policy and practice because of both differing perceptions on the part of universities regarding the extent of the need for remediation and a reluctance to deny admission to students needing remediation who are otherwise eligible. Differences in policy and practice in remediation tend to mask agreement that high school graduates are less well prepared to undertake college-level coursework than in the past, even under conditions of more selective admission standards. Recent increases in high school graduation requirements involving the demonstration of competencies in communication and computational skills do not appear to be having an impact on remediation for college students because standards for high school graduation tend to be set at too low a level to be useful for placement of college students in remedial programs. Increases in the high school preparation required of college and university freshmen are expected to reduce the need for remediation in the future but apparently will not do so in the next few years.

While remediation of college students is still increasing, states are beginning to move such instruction out of the university and into the community college, and at some later time, back to the high schools. Still, they are for the most part leaving responsibility for assessment of basic skills and placement at the appropriate level of remediation with college and university staff.

Florida, Texas, Arizona, and California are several states in the study in which remediation and the related assessment of basic skills are being dealt with in a cooperative, intersegmental manner involving both community colleges and four-year institutions rather than single institutional or segmental programs.

Florida has a statewide assessment program that is mandated by the legislature under which the state universities may no longer offer remedial instruction at state expense to students who do not earn satisfactory scores on the placement tests administered upon entrance. Community colleges now provide remedial instruction for university freshmen under contract with the university—taught on

the university campus by community college faculty under contract agreement. However, the legislature declared that all remedial instruction be moved back to secondary schools by 1990 and later repealed one such directive while leaving another in statute, thus making this move somewhat uncertain.

In Texas, the Coordinating Board for Colleges and Universities adopted a new policy in 1986 that, as explained earlier, institutes a statewide assessment program at entrance for students found to have deficiencies in basic skills, and again when deficiencies are removed. The policy is applicable to all institutions under the board's jurisdiction. Although not mandated to do so, the University of Texas at Austin had been having Austin Community College provide remedial instruction for its freshmen who need it even before the new state policy was adopted—and will continue doing so.

In Arizona, cooperative arrangements for providing remedial instruction are voluntary and involve Arizona State University and the Maricopa Community Colleges in a program in which the latter instruct concurrently enrolled freshmen whom the university has identified as needing special help in improving basic skills.

In California, the Postsecondary Education Commission recommended in 1983 that the University of California and the California State University develop plans to reduce and eventually eliminate remedial instruction for freshmen enrolling in their institutions. While progress in doing so has been slow, several university campuses—most notably the University of California, San Diego—are working out voluntary cooperative arrangements with nearby community colleges in which the latter provide the necessary remedial instruction (California Postsecondary Education Commission, 1983, 1984, 1985, 1986).

The development of statements of competencies in communication and computational skills that entering freshmen should be expected to have achieved offers a final example of a cooperative state-level activity that is related to assessment and remediation. Faculty members from different types of institutions in Minnesota, Florida, and California have all participated in defining and describing basic skill competencies for use by high schools in improving their college preparatory courses, by those developing assessment instruments for basic skills, and by others interested in knowing what is expected of freshmen enrolling in degree-credit programs. Such state-level activities complement national efforts such as the National Assessment of Educational Progress, Project Equality, and task forces established by test publishers and have the advantage of widespread involvement by faculty members who will use the competency statements.

6.
ETHNIC MINORITY STUDENTS AND THE TRANSFER FUNCTION

Among the nation's major ethnic minority groups, American Indian, Black, and Hispanic high school graduates are still underrepresented in higher education despite years of affirmative action programs to increase their numbers. Special programs are developed to motivate, prepare, and then recruit high school students from these ethnic groups to attend college, but comparatively little is done by way of special programs to encourage community college students to transfer. An implicit assumption appears to underlie efforts to work with high school students from ethnic minority groups: baccalaureate-degree seekers should enroll directly in a four-year institution, and those enrolling in a community college will be seeking only an associate degree that may be in an occupational program.

In spite of the best efforts by four-year institutions to recruit ethnic minorities, community colleges continue to attract and enroll as freshmen the majority of these young people who go to college. The disadvantaged students choose community colleges over four-year institutions for many reasons: ineligibility for admission to the four-year institutions; differences in cost of tuition and fees; family ties or problems which keep them close to home; and sometimes fear of what life at a large university would be like. Thus while community colleges are enrolling a large pool of potential transfer students who could be motivated and prepared in associate degree programs to complete a baccalaureate degree, students from some minority groups are transferring in relatively small numbers.

Since the 11 states in the study were known to vary widely with respect to the size and composition of their ethnic minority population, project staff sought information about each state's demographics as a context within which to inquire about affirmative action plans, goals, and programs to increase ethnic minority enrollments in higher education.

PRACTICES IN THE STATES

In master plans, other policy statements, desegregation plans, and legislation, states have made a commitment to increasing access to higher education for members of underrepresented ethnic minority and other disadvantaged groups. Beyond this general commitment, the states vary in the nature and specificity of their goals, the primary locus of the commitment—campus, system, or state-level—and the availability of special funds to translate commitment into action.

As expected, most states give primary attention to increasing the flow of ethnic minority students from high school into either community colleges or four-year institutions, with relatively little attention to persistence and transfer. The Urban Community College Transfer Opportunity Program of the Ford Foundation and a few other specially funded projects represent the exceptions to this emphasis on the enrollment of freshmen.

In New York state the Regents of the University of the State of New York continued their long-standing commitment to eliminate barriers that impede any person's opportunities for educational development by securing legislation and special funding in the 1985–86 session for a Science and Technology Entry Program (STEP). Under STEP two- and four-year institutions may compete individually or in consortia for grants to work with secondary school students who are economically disadvantaged or from underrepresented ethnic minority groups, with the goal of helping such students prepare for entry into collegiate programs in scientific, technical, health, and health-related fields requiring licensure. In a Regents Action Report, *Increasing Minority Access to the Licensed Professions*, 31 professions listed and regulated by them require postsecondary preparation and ethnic minority groups are underrepresented (1985). STEP is available to two-year colleges as well as those offering professional preparation at the baccalaureate and higher degree levels, but applicability to transfer and career-ladder programs is unclear.

The Regents have responsibility for elementary and secondary as well as higher education in New York in both the public and the private sectors and thus are in a position to call for and articulate special efforts to improve preparation for and retention in all levels of education. Their Higher Education Opportunity Program is their most extensive, specially funded effort in higher education—for supportive services, financial aid, and expanded enrollments—but the program makes no specific provisions to assist students transferring to four-year institutions.

Florida's community colleges are required to spend one-fourth of their staff and program development funds on the recruitment of minority students. The funds represent 2 percent of each college's salary budget for the previous year, one-fourth of which is of course 0.5 percent of the development funds.

Also in Florida, the McKnight Programs in Higher Education provide an example of a private foundation's funding of what is essentially a state program to increase the preparation and eligibility of Black and other ethnic minority youth for college and university work. The programs were conceived as a positive response to recent legislative actions to reform education in Florida—reforms which some saw as having the potential to set back the progress that Black residents had been making in education. As part of the programs, church- and community-based McKnight Centers of Excellence have been established, and students from kindergarten through the collegiate level come year-round for educational and cultural programs and support services that are designed to increase their academic and coping skills. The centers are viewed as partnerships involving not only the various sectors of education, but also community-based organizations and governmental

agencies. The McKnight Centers are pertinent to transfer insofar as students from community colleges participate in their activities and in so doing strengthen their academic skills and are encouraged to continue their education beyond the community college (Tribble, undated).

In Arizona, one of three university-based scholarship programs that are available to transfer students from Arizona community colleges is designed specifically for students from ethnic minority groups. Arizona State University has a minority recruitment scholarship program for which both high school and community college graduates are eligible, and it is highly advertised on community college campuses with large enrollments of ethnic minority students. Both Arizona State and the University of Arizona offer special scholarships to community college transfer students who have demonstrated a high level of achievement in their lower-division work.

California probably spends more public money than any other state in the study to motivate, prepare, recruit, enroll, and support students from underrepresented ethnic minority and other disadvantaged groups both while in secondary school and after enrolling in a public college or university. However, primary emphasis in the specially funded programs and services is on getting such students into (and more recently through) community colleges or four-year institutions, with much less funding to meet the needs of those who enroll in baccalaureate degree programs after first attending a community college. Exceptions to this generalization are a state-administered student aid program and certain institutionally based student services programs that help meet the transfer needs of ethnic minority and other disadvantaged students in community colleges.

The California state-funded grant program for disadvantaged students (Cal Grant B) specifies that at least 51 percent of the new awards be made each year to community college students for expenses other than tuition and fees, with funding for the latter assured when students transfer to four-year institutions with such charges. The grants are need-based but are awarded on the basis of additional personal and family characteristics that relate to disadvantaged status.

The institutionally based student services programs are the Extended Opportunity Programs and Services (EOPS) in the California Community Colleges, and the Educational Opportunity Program (EOP) in the University of California and the California State University. Historically, EOPS students who persisted and performed well enough to transfer from a community college were ineligible for EOP services while they completed baccalaureate-degree programs. In 1985, the Postsecondary Education Commission called attention to problems stemming from this absence of linkage between EOPS and EOP and made specific recommendations regarding the programs that are now being implemented (1985, 1986).

California colleges and universities have other specially funded programs and services to assist transfer students and improve articulation, but they are described in other chapters since they are not designed for or limited to ethnic minority and other disadvantaged students.

In Illinois the Board of Higher Education issued a report in May 1985 that compared enrollment and graduation rates of Black and Hispanic students in its colleges and universities with population statistics in public school enrollments. It showed substantial declines in minority group representation at each level of higher education in terms of both enrollment and graduation, compared with their representation in the state's population and in public schools but not among high school graduates (Illinois State Board of Higher Education, 1985).

The report also revealed that in fall 1984 the percentages of Illinois community college students who were Black or Hispanic were higher than the percentages of those students represented in both four-year colleges and universities and the senior high school class. However, representation of Black and Hispanic students among the graduates receiving associate and higher degrees was below enrollment levels in both community colleges and four-year institutions and was nearly comparable to community college recipients of certificates. The report lacked information about rates of transfer from community colleges to baccalaureate-granting institutions for Black and Hispanic students or their success in completing baccalaureate programs.

Based on the findings of the report, the board adopted a resolution in July 1985 that embodied the following priorities:

- Increase the high school graduation rate for minorities;
- Prepare more minority high school students for baccalaureate-degree programs;
- Increase the baccalaureate-degree completion rate for minorities; and
- Expand professional development opportunities for minorities in fields leading to graduate and professional degrees, especially in fields emphasizing mathematics and the sciences.

The role of community colleges in providing opportunities for disadvantaged students to begin baccalaureate-degree programs and the need to expand programs and services to increase the success rates of such students are acknowledged in the report as part of the priority to increase the rate of completion of the baccalaureate degree. One initiative that the board recommended for funding to assist community colleges is Northeastern Illinois University's program of curriculum seminars and workshops for community college faculty, and advising and developmental assistance for transfer students. It also mentioned the disadvantaged student grant program in the community colleges that is funded by the state and plays an important role in helping students achieve their objectives.

FORD FOUNDATION PROGRAMS

The Ford Foundation made initial grants in 1983 to 24 urban community colleges to develop and offer programs to increase transfer opportunities for students from ethnic minority groups. The colleges invited to apply for grants were selected on the basis of the proportion of ethnic minority students in their enrollment. Fifteen colleges in six states of the 11 in the current study received such grants—eight in California, three in New York City, and one each in Arizona, Florida, Illinois, and Texas.

The program emphasized one or more of the following four intervention strategies:

1. Providing counseling and student support services;
2. Improving the identification of potential transfer students and delivering useful information to them;
3. Improving articulation of academic programs with four-year "receiver" institutions; and
4. Restructuring and improving curriculum, especially basic skill courses in writing, reading, and general education.

Display 1 below shows the dominant strategy selected by each of the 15 colleges in the states in this study.

Each college received a grant of $25,000 for 1983–84 to carry out its proposal, during which time the colleges were evaluated with respect to their potential for undertaking a successful demonstration project that would have national significance. In July 1984, the foundation made major grants for three-year projects at five of the 24 colleges in the original awards group, including three colleges in states in this study.

DISPLAY 1

Dominant Intervention Strategies Used by Community Colleges with Ford Foundation Grants

		Strategy			
State	College	Counseling Services	Identity Information	Articulation	Curriculum
Arizona:	South Mountain	•			
California:	Compton			•	
	Laney	•			
	Los Angeles City				•
	Los Angeles Harbor		•		
	Los Angeles Mission	•			
	Sacramento	•			
	San Diego		•		
	West Los Angeles	•			
Florida:	Miami-Dade		•		
Illinois:	East St. Louis			•	
New York:	Bronx		•		
	Hostos		•		
	LaGuardia		•		
Texas:	Houston	•			

Source: California Postsecondary Education Commission.

In order to guide all students in the transfer decision making process at La Guardia Community College, the faculty adapted a general education curriculum, which had been developed for full-time day students, to serve part-time and evening students in cooperative education. The college is building a continuum of student support services to precede and complement the co-op curriculum model, including in-depth counseling, transfer workshops, and an individualized portfolio system that helps part-time students develop long-range academic plans. LaGuardia is also designing a student self-assessment test, which enables students to monitor their own academic progress. In addition the college is strengthening its articulation linkages. First it deepened its relationship with Vassar College and extended it to nine other private colleges and then engaged 16 companies employing LaGuardia students in transfer-related activities. Finally, to facilitate replicability and impact, the college is disseminating curriculum materials and hosting meetings for representatives from other community college campuses in the region.

Miami-Dade Community College (North Campus) has been able to increase its activities supported by the Staff and Program Development funds by means of its Ford Foundation grant. Its Transfer Opportunity Program focuses on data collection, feedback, and curriculum development. It involves three cohorts of selected students, "high risk" eleventh and twelfth graders; high school graduates already enrolled in the community college; and community college graduates who are currently completing baccalaureate degrees at "receiver" institutions. Each of these groups had a matched control group in basic skills level, grade-point average, and ethnicity.

The experimental cohorts receive a program oriented toward transfer with strategies specifically designed to meet their learning needs. High school student characteristics are being analyzed, and special tutoring in basic skills, including writing and problem solving, is being provided. Also Miami-Dade offers special counseling and advisement regarding course selection at the community college. The community college cohort is receiving intensive academic review sessions in preparation for the statewide College Level Academic Skills Test, which is required for admission to the upper division.

Another major intervention strategy is the introduction of academic peer support groups. Within an often impersonal university environment, when students are away from home for the first time, peer support can be a critical factor in successful transfer. Miami-Dade developed peer support groups among the experimental cohort of students to determine whether this may have an effect on their academic motivation and desire to continue their education. Among other strategies that were planned for the community college cohort were site visits to university campuses, academic counseling, and a final "Exit Bridge" workshop designed in collaboration with several senior colleges to which its graduates usually transfer.

Finally, Miami-Dade is working with its graduates to determine the competencies needed for persistence to the baccalaureate degree. First, these students were surveyed, along with senior college faculty, to determine ways in

which the Miami-Dade curriculum could be revised and strengthened to meet their needs. Following the survey, the college is providing release time for key faculty to work on general education courses to make them more appropriate to the requirements of the senior colleges.

The basic components of the South Mountain College project are a College Orientation Program, a Mentor Program, and a University Orientation Program. Each component has been designed and articulated to provide a range of personal support and academic tutoring for high-risk students. A computer-based record-keeping system is being used to track students and evaluate the program.

The College Orientation Program has been expanded to include two high schools and one additional community college. At the high schools, seniors who have an interest in continuing their education are recruited, provided with a college orientation course, and given opportunities to enroll in general education courses. Activities at South Mountain have been expanded to include night students.

The Mentor Program is designed to match students who are preparing to transfer with faculty mentors for the purpose of providing both personal and academic support. Eight to 10 student mentors have also been recruited with responsibilities for providing support to the students receiving orientation at all locations. This program will also be expanded to include evening students.

The University Orientation Program assists community college students in their transition to a four-year institution. The centerpiece of the program is an orientation course taught by Arizona State University on the South Mountain campus. Students in the program have opportunities to learn more about both Arizona State University and Grand Canyon College, the only private liberal arts college in Phoenix. Students who transfer to Arizona State are being assisted by student mentors at the university and then recruited to participate in the mentor program.

Tracking student performance is at the heart of South Mountain's project evaluation. During the first semester of the project, the college created a computer-based student information system. In subsequent semesters, evaluators are being used to analyze the data and determine whether students are making satisfactory progress in their academic work.

The other remaining colleges received mini-grants to continue their work on projects started in 1983 and, after further evaluation, were invited to apply for a final grant to work on a particular problem or need that was identified in the evaluation.

As the Urban Community College Transfer Opportunity Program nears conclusion, the foundation has made a grant to the United Negro College Fund to help 16 member institutions in the private, four-year sector improve transfer opportunities and articulation with 10 urban community colleges that participated in the original project. The plan of work calls for community colleges in Alabama, Florida, Illinois, Massachusetts, Michigan, New York, Ohio, Pennsylvania, and Virginia to work with the 16 historically Black four-year institutions to increase opportunities for their students to transfer and strengthen program articulation.

7.
ARTICULATION OF CAREER EDUCATION PROGRAMS

Many community college students seek preparation for employment after two years of college but do not want to have the baccalaureate degree foreclosed as an option in the future. Others change their educational goals to a more academic program after entering an occupational course of study or choose to add the achievement of a degree to their goals. Most of these students have the capability of succeeding in a baccalaureate-degree program, and many become interested in doing so at some point in their career development.

Problems arise in trying to put together transfer agreements for vocational/technical programs because levels are often difficult to define. What could be considered a vocational course in one educational setting could be considered technical in another, depending in part on the prerequisites to be met. While work is being done to develop articulation agreements for career-related courses, less focus has been placed on the kind of degree program that is most appropriate to student-specific needs.

Articulation of career education programs may take place at several levels:

1. Articulation between secondary schools and community colleges (two-plus-two), with an option to continue to a baccalaureate degree for those who wish to do so;

2. The prescription of two years of academic and preprofessional coursework for transfer into an upper-division program in a professional field;

3. Articulation between two-year career education programs in community colleges and related baccalaureate-degree programs offered by four-year institutions;

4. Articulation for students enrolled in noncredit postsecondary programs in adult schools, regional public vocational/technical schools, or those in the private sector, to enable them to continue in a similar community college program and receive credit or other recognition for their previous achievement;

5. Articulation that begins with career preparation at the secondary school level, continues through the completion of an associate degree, and leads to a baccalaureate degree in an appropriate discipline or career field; and

6. An upper-division baccalaureate-degree program for men and women who have

had significant work experience after completing a community college vocational/technical program.

This chapter highlights efforts in various states to increase articulation between different levels and types of career education. It differs from most other chapters in the amount of attention given to secondary school-community college articulation and collaboration.

The Neglected Majority (Parnell, 1985) provided the impetus for this broadened look at articulation by proposing a "2+2 Tech-Prep Associate-Degree Program" for the middle 50 percent of the youth population which is unlikely to complete a baccalaureate-degree program under present conditions. Based on the assumption that it may be poor practice to track secondary school students into programs that will foreclose future educational opportunities and options, this chapter examines a broad range of articulation practices.

In discussing articulated career education programs leading to a baccalaureate degree, there is an important distinction to be made between pre-professional and vocational/technical education offered at the lower-division level. The former consists of general education and other liberal arts and science courses that are prerequisites for upper-division work in the major, for example, in engineering and teacher education. The latter includes some mixture of basic skills, technical, and related general education courses that may be offered for baccalaureate-degree credit in some fields such as business and agriculture. In many occupational fields and at most comprehensive community colleges, both types of lower-division programs are offered, but students planning to transfer are advised to enroll in a pre-professional program to avoid loss of credit in transfer.

In order to realize their full educational and career potential, community college students need to have a wide range of options to continue their education while moving up the career ladder. These options should include not only retraining and upgrading, but also access to upper-division programs to complete a baccalaureate degree in the same or a related career field, one that prepares them for supervision and management, or perhaps for teaching in a community college. Some students will advance directly from high school to a community college and then to a four-year institution, while many more are likely to "stop out" for employment at different times and levels. Providing various options offers a difficult challenge for articulation but appears necessary in order to achieve the full development of the nation's human resources.

SECONDARY/POSTSECONDARY ARTICULATION AND COLLABORATION

Collaborative activities involving secondary schools and community colleges or other types of two-year, postsecondary institutions include the articulation of occupational courses and programs but go beyond this function in ways that strengthen occupational curricula at both levels. The following are a few examples of such programs and practices from the 11 states in the study.

In Arizona, the Maricopa County Community Colleges and Arizona State University have

worked out what may be the best articulation agreements in various areas of business administration that exist anywhere in the nation, one result of which is the State University's heavy reliance on these transfer students to fill the ranks of its business graduates. Articulation in business is difficult because of limitations on lower-division coursework that are imposed by the accreditation association, but the Arizona institutions appear to be able to work through these problems satisfactorily.

Business is but one of many fields in which the State University has agreements with the Maricopa Colleges, all of which are published in transfer guides that are updated periodically. This activity represents a firm commitment to transfer on the part of the faculties and administrations at both levels—a commitment that is backed up by expert support staff to provide continuity and oversight of this complex process.

In California, the 19-campus California State University System probably has articulation agreements with the community colleges in more career fields than any other such institution, and more than half its baccalaureate degrees are awarded to students who have transferred some coursework from a community college. A recent survey of 48 community college catalogs showed 22 career fields in which baccalaureate-degree programs have been articulated, ranging from agriculture to banking and finance, early childhood education, interior design, and theater arts. Faculties in home economics provide the most recent example of new collaboration in articulating common course numbers in a lower-division core program for students seeking a baccalaureate degree in this field.

At the present time, the individual community colleges have responsibility for certifying to the State University those courses that should be awarded baccalaureate-degree credit, including any or all occupationally related courses that the college offers for degree credit. Unlike those in most states, California Community Colleges do not distinguish between an associate degree for transfer and one for employment; in fact, relatively few students receive an associate degree, although most are now required to complete two years of coursework before transfer. While the transfer credit policy appears quite generous (a maximum of 70 semester units), the credit is of little use unless the courses so transferred meet specific graduation requirements or fall within the limits of credit for elective courses. Thus transfer students may be awarded credit for occupational courses but "lose" it in a subsequent evaluation of how well it satisfies degree requirements.

In New York, Long Island University inaugurated its "Post-Associate Business Program" in 1985 to enable LaGuardia Community College graduates in accounting, business administration, business management, and data processing to commence their baccalaureate work at LaGuardia before transferring to the University's Brooklyn campus. This program allows LaGuardia students to earn a total of 18 credits in business toward the University's degree at comparatively low cost.

2 + 2 + 2 PROGRAMS

The most promising of possible developments in career education is the occupationally oriented curriculum that begins in high

schools, continues through the community colleges, and leads to a baccalaureate degree. This is not six years of vocational education at three successively higher levels but, instead, a program that recognizes that students need and want to think about their future careers while getting their education, and that many career fields offer entry-level opportunities after completion of varying amounts of formal education. This is the career ladder concept that enables students to "stop out" for employment along the way and then resume work toward a degree in the same or a related career field.

Articulation in this context may also mean the vertical alignment of occupational/technical courses so as to accelerate student progress through a career program. Some options are: concurrent high school and community college enrollment for degree credit; advanced placement in college courses in the career field; and competency testing for college credit (sometimes called "challenge" examinations).

A major objective of this type of program is to motivate students to continue their education to develop their full educational and career potential by allowing them to keep their options open and move from level to level with as little loss of time and duplication of effort as possible.

Following a study of the feasibility of developing articulated career education programs, the governor of California proposed and the legislature appropriated funds amounting to $410,000 for 1988–89 for the first of what is expected to be a three-year project to plan and implement career education programs. These programs extend from high school through community college to the baccalaureate degree in either public or private institutions in California. The current state budget includes expanded funding for the second year of the project.

Eighteen projects were selected for first-year funding through 16 community college districts, one unified school district, and one state university on behalf of a northeastern California consortium. Applicants for the grants were expected to have one portion of the 2 + 2 + 2 program already in place and to propose its expansion to the third segment or level—down to the high school or up to the baccalaureate level. Half of the funded projects are developing articulated programs in one career field and the remainder in two or more fields. The proposals encompassed 13 career fields that ranged from aeronautics and automotive technology to drafting and teaching. Those proposed most often were automotive technology, business, electronics, manufacturing technology, and nursing.

In Illinois, Southern Illinois University may have pioneered the development of 2 + 2 + 2 programs in agriculture, business, industrial arts, and teacher education, one objective of which is to prepare teachers for a number of vocational fields.

SPECIAL DEGREES FOR SPECIAL STUDENTS

For working adults who have completed their associate-degree coursework some time ago, a baccalaureate degree in either an academic discipline or the career field in which they started may not be appropriate. The former

might well be organized as an "upside-down" curriculum, with general education comprising a major portion of the required coursework for graduation. However, this does not resolve the issue of the major in which the baccalaureate degree is awarded since it is unlikely that the student will have enough upper-division units in an academic discipline to qualify for a degree in such a major.

An alternative is a degree in a career field, such as nursing or criminal justice. Unfortunately, the degree-granting institution is usually reluctant to award a degree in a field in which the student has taken most of his or her work in a community college, and the student finds it impractical and even a waste of time to repeat community college coursework in a career field at the upper-division level. For these reasons, discussion continues on the need for a special baccalaureate degree for older community college graduates with significant work experiences who may want to move into positions as managers and supervisors or as teachers in the field of their work experience. A concern is that any special degree for such students not be regarded as a second-rate degree.

Private universities serving older, often part-time students may be more interested in developing this kind of articulation than public institutions whose undergraduate curricula are designed for students who will remain in the institution until they receive their degree. The former will accept at face value the lower-division coursework completed elsewhere and allow students to enroll in whatever upper-division courses and programs for which they are prepared. For example, National University, based in California and operating on many campuses or centers, is very attractive to former community college students who are in a sense able to make a fresh start at the upper-division level, without being concerned about specific articulation agreements with a college they may have attended many years ago.

Another example from California is the State University at Long Beach, which offers a baccalaureate degree in industrial technology for community college transfer students whose lower-division work articulates with neither an academic discipline nor a specific career field in which to advance to a baccalaureate degree.

Finally, Colorado State University offers a bachelor of science degree in technical management for community college graduates with an associate degree in applied science—not normally a "transfer" degree.

ARTICULATION INVOLVING NON-CREDIT COURSEWORK

Large numbers of students in career education programs enroll in postsecondary programs that do not yield college credit but may lead to competencies that are comparable to those that are the objectives of college-credit courses. Among the providers of non-credit coursework are, in addition to the community colleges themselves: adult schools; area or regional occupational centers; government-funded job training programs; the armed services; employers; and, of course, private postsecondary institutions. Community colleges are generally reluctant to award credit for competencies earned under different auspices, much as universities are unwilling to award a baccalaureate degree in a

career field for which the community college has prepared the student.

No examples of current practices are offered here, but attention is called to the intent of the specially funded 2+2+2 projects in California to develop articulation arrangements that will involve both adult schools and regional occupational centers.

PROSPECTS

This chapter is more conceptual than comprehensive in regard to practice, in part because articulation of career education is a development that is dynamic, full of promise, but fraught with concerns about autonomy and turf. However, the nation's work force will not achieve its full potential for creativity and productivity unless individuals have multiple options to continue their educational and career development, at least through their working years in both degree programs and those that are designed for less formal upgrading and retraining.

8.
DATA BASES AND INFORMATION SYSTEMS

The effective monitoring of transfer and articulation programs requires the support of good information about student flow and performance—preferably maintained in computer-based student information systems. Few state coordinating agencies and governing boards in the study maintain the kind of comprehensive student data bases at the state level that are needed to monitor student flow and performance or to evaluate efforts to improve the transfer and articulation process. In some cases, the central offices for state university and community college systems maintain student data bases that are relevant to transfer, but do not use them to monitor student flow or, when they include individual student identifiers, to track students longitudinally so as to assess their progress in meeting their degree objectives.

Furthermore, few states have begun to develop computer-based course and program articulation information that would assist students in selecting transfer courses and programs with certainty about transferability; assessing the transferability of their community college coursework to the state's four-year institutions; or gauging their progress in satisfying the transfer admission or degree requirements of various four-year institutions.

DATA NEEDED TO MONITOR TRANSFER

Transfer student information is needed to carry out three major types of monitoring which provide a basis for evaluating the effectiveness of transfer and articulation programs and procedures:

1. Student flow between and among institutions, including information on applications, admissions, and enrollment;

2. Student performance, including information about persistence to the degree, course grades and grade-point averages, academic standing at time of exit, and lower-division credit earned and transferred; and

3. Degrees awarded, including the amount of time to the degree.

In order to be useful, state-level data bases should contain individual student records (unit records), preferably with unique student identifiers—usually Social Security numbers—for tracking students from year to year and from institution to institution, at least within the state's public colleges and universities. When unique identifiers are not available, a limited amount of student tracking

may be done by use of institutional codes in the students' unit records.

The following appear to be some essential variables for a transfer student data base: institution last attended, institution to which the student transfers, date of transfer (term and year of first enrollment after transfer), sex, ethnicity, age at time of transfer, major in which degree is to be earned, and student level at time of transfer.

Other variables that appear to be useful in analyzing transfer student performance are: basis for transfer admission (regular or special action), part- versus full-time status after transfer, grade-point average in courses for which transfer credit is awarded, grade-point average after transfer (first-term and first-year, if possible), academic status at end of last term enrolled (satisfactory, academic probation, or academic dismissal), and date of degree awarded, if any.

The new federal Integrated Postsecondary Education Data System (IPEDS) now yields little information that is useful in monitoring transfer and articulation, in part because of its lack of attention to variables that identify and separate community college transfer students from native and other groups of transfer students.

State coordinating agencies and boards maintain student data bases that will enable them to fulfill their responsibility for master planning, projecting enrollments, budgeting, auditing, describing their student body, evaluating admission policy, and demonstrating accountability.

ILLUSTRATIONS FROM SELECTED STATES

Student data bases and their uses in monitoring transfer and articulation processes are described as illustrative of good practices in several states that were visited in the course of the study.

In New York, the student data base maintained by the central administration of the State University of New York and the annual reports generated from the data appear to be the most comprehensive of the 11 states in the study. The State University comprises both two- and four-year colleges and universities, including locally governed community colleges and special, state-supported programs in independent institutions. Thus common student data elements may be easier to define than in states in which different systems of postsecondary education are governed by different boards.

The State University publishes annual reports regarding geographical and institutional sources of new students in its vast array of two-year, four-year, and specialized institutions. Two major reports from its student data bases are *Geographic Origins of Students* (in three volumes—one using the individual institution as the unit of analysis, a second displaying credit students by origin or origin group, and the third analyzing enrollment trends) and *Application and Enrollment of Transfer Students*. The focus in the latter report is on the specific receiving institution (or institutional type), rather than specific institutions of origin, but the information is useful in examining the flow of two-year college students to each of the State University

campuses that award the baccalaureate degree.

The use of Social Security numbers as student identifiers makes it possible to track students between and through State University institutions to degrees and certificates, or to exit without such an award. In a recent report, successive cohorts of native and transfer students are followed for up to six years through two- and four-year colleges and universities, with rates of attrition, persistence, and graduation presented for each campus (State University of New York, 1987).

While replete with information about persistence, the report does not show specific linkages between two- and four-year institutions, nor does it contain information about academic standing or grade-point averages. The latter type of information is not put into the state-level data base because of staff's belief that it would lack reliability and thus usefulness. As noted earlier, student flow information as sources of new students is reported elsewhere in considerable detail, but published reports show aggregated persistence data for transfer students which limit their usefulness in evaluating the performance of community college transfer students.

Direct campus-to-campus reporting on transfer student performance and persistence is outside the scope of this analysis of system- and state-level data bases and information systems, and comments on any shortcomings in statewide reports need to be understood in this framework. Information in any state-level data base originates for the most part at the campus or institutional level, where more complete reporting to feeder institutions is both feasible and common.

In California, the Postsecondary Education Commission maintains full-term student enrollment data bases for the state's three systems of public higher education—the University of California, the California State University, and the California Community Colleges. The data bases comprise unit records without unique student identifiers, data elements for each student that can be used in cross-tabulating information, but without the capacity to track students from year to year or institution to institution.

For purposes of monitoring transfer, use is made of the following elements in the university and state university data bases: status (new student), last institution attended (a community college), sex, and ethnicity. The commission publishes a report annually that displays historical data on numbers transferring to the university and state university systems from each community college, and current-year information about the ethnicity of each transfer group (California Postsecondary Education Commission, 1987). The Commission also publishes information each year about the number of community college students who transfer to each regionally accredited, independent California college and university, but this information is not yet computerized by the commission.

The commission's published reports also contain information about university campus trends in enrolling transfer students from community colleges, their sex, age at the time of transfer, and upper-division majors. The annual report is supplemented by a computer printout prepared for each community college that displays information about its transfers to each university and state university campus.

Although requested often, no transfer rates are computed because of the unsatisfactory nature of any divisor that could be devised from information that is currently available. No distinctions can be made between community college students with or without: baccalaureate-degree objectives; eligibility for admission to a university with advanced standing; and baccalaureate degrees. Furthermore, the computer program produces all new community college transfer students on university campuses for a particular fall term, without regard to the last date they were previously enrolled. Finally, the commission is beginning to publish full-year transfer statistics, as well as those for the fall term, since increasing numbers of students are now transferring in the winter and spring terms.

The president's office of the University of California provides information each year to each California community college on the first-year performance of the new transfer students enrolled on each of its eight general campuses. The summary report shows the number enrolled at the census date, the number who were admitted by special action, community college and first-year university grade-point averages, percentages of first-year university grades that were below "C" and above "B", and the average number of units completed during the first year after transfer.

The chancellor's office of the California State University has begun sending similar student performance reports to the state's community colleges. However, its reports differ from those of the University of California in that they are now limited to students who are still enrolled one year after transfer.

Neither the university nor the state university provides reliable information on student persistence to the baccalaureate degree on a regular basis, nor is there a satisfactory set of data on the basis of which community college transfer student persistence and performance can be compared with that of native students or other types of transfers. Each system has conducted occasional studies in the past, but none are recent enough to merit citation here, and the state university studies included no information about academic performance. However, individual university campuses supplement the state-level summary reports with more specific, detailed information about the performance of transfer students from their feeder community colleges. The development of a new, very comprehensive management information system by the chancellor's office of the community colleges is expected to bring about better statewide data collection and distribution regarding transfer, including the use of unique student identifiers.

The Postsecondary Education Commission also maintains computer files on baccalaureate and other degrees awarded by the university and the state university that contain information relevant to transfer. The files contain a code for the institution which the degree recipient last attended before enrolling on the campus awarding the degree (a high school, community college, or other four-year institution); the discipline in which the degree is awarded; his or her sex; and ethnicity. The data are analyzed periodically so as to compare community college transfer with native and other transfer groups in regard to percentages of degrees awarded to each student group by discipline, sex, and

ethnicity, in relation to their representation among new undergraduate students. This analysis yields one rough measure of performance, which is confounded by the differing patterns of attendance and amounts of credit earned by transfer students before enrolling in the institution that awards them their baccalaureate degree.

For other student information, Los Angeles Harbor College has published a directory of potential transfer students in Los Angeles-area community colleges for use by four-year institutions in providing information to students whom they may recruit, especially as part of their affirmative action program. The directory lists sophomore students' names, addresses, Social Security numbers, ethnicity, major, units completed, and grade-point average, with their permission (Los Angeles Harbor College, 1986).

In North Carolina the general administration of the University of North Carolina, which includes all of the state's public four-year institutions, maintains an extensive student data base with most of the data elements needed to conduct longitudinal studies of transfer student performance and persistence. The office provides information on the first year after transfer to both sending and receiving institutions regarding the number of students who transferred; fall term grade-point averages; mean number of letter grades and pass/fail credits earned in English, mathematics/science, and social sciences; grade-point averages in those discipline areas; end-of-year grade-point averages; and academic standing. Other data elements include sex, ethnicity, class level, and attendance status of students by institution.

Information about transfer student applications, disposition, and enrollment is available but not analyzed separately from this kind of information for all applicants. Graduation data are also produced in aggregated form only, with no specific information for transfer students.

A unique identifier for each student is part of the university's data base so it has a much greater potential than has yet been realized. The State Department of Community Colleges in North Carolina maintains enrollment data by institution and program. It is able to use this data to provide lists of potential transfer students by ethnicity to the University of North Carolina to assist its campuses in recruiting students as part of the state's desegregation efforts.

Transfer from Texas public community colleges to its public universities can be documented by using the student enrollment file of the Coordinating Board of the Texas College and University System. That file also contains information about campus of origin and attendance, sex, ethnicity, and major area of concentration.

The enrollment file of the Coordinating Board may also be used to study the progression of university students from freshman to senior status, using Social Security numbers in individual student records, compared with the progression of community college transfer students. The board's data base does not have grade or graduation information for individual students.

In Washington state, the Office of Financial Management uses a student flow model to

forecast student enrollments for the state's public two- and four-year institutions, which also drives state funding for these institutions. The model simulates the composition of an institution's enrollment by focusing on the number of students it currently enrolls and the number of new native and transfer students whom it will admit. The enrollment data base of this office also includes the students' sex, age, class standing, and other characteristics.

In Illinois the Community College Board periodically conducts longitudinal studies of transfer students using a temporary computerized master data file with individual student records that it finds to be more cost effective than a permanent file. The basic design of the board's most recent study is a five-year longitudinal analysis of students transferring to Illinois's public universities in fall 1979 until they graduated or were no longer enrolled at the institution to which they transferred (1986).

The master data file was created by establishing a unit record for each student in the study that contained both pre-transfer data and post-transfer data from the senior institution and the two-year college. At the end of each academic year, an updated report was generated for each student in the study until the end of his or her enrollment, with reports made back to the two-year colleges. These reports provided aggregated information on the status of their students by field of concentration to each transfer institution.

They also included information about the number enrolled, average term credit hours and grade-point average, cumulative credit hours and grade-point average, and the number of students graduating each term. The Community College Board's permanent data base consists of three major files, two of which include student performance data: the Fall Student Enrollment File, with data for students enrolled at each college at the end of regular registration (tenth day of the term); the Annual Student Data File, with edited annual unduplicated records on all students enrolled or completing a degree or certificate program any time during the year; and the Occupational Follow-Up Data File, with data on students who have either completed or left without completing an occupational program.

9.
OTHER DEVELOPMENTS IN ARTICULATION AND COLLABORATION

This chapter summarizes developments in four additional areas related to articulation and collaboration: aids to counseling about transfer; staff preparation and development; program review for articulation opportunities; and joint use of facilities and other resources.

AIDS TO COUNSELING ABOUT TRANSFER

As noted in Chapter 3, in 1985 California's Governor proposed and its legislature appropriated funds for the support of transfer centers on selected community college and university campuses. This action recognized the need for a clearly identified location on each campus to which students, faculty, student services staff, articulation officers, and other interested parties can go for information about transfer and articulation and referral for services offered elsewhere. The centers are not designed to centralize services or staff doing work related to transfer, but instead to be a small facility with a telephone, a person or persons to give and receive information and make referrals, college catalogs and other documents containing information about transfer and articulation agreements, and in some cases a small computer.

The center concept recognizes that transfer and articulation are campus-wide responsibilities of the faculty, counselors, educational opportunity program officers, other student services personnel, and academic administrators. At the same time it acknowledges the inability of most such staff to become and remain knowledgeable about the details of transfer requirements and articulation agreements that differ for the various programs and institutions to which students transfer. Thus the minimum basic function of the centers is to provide a central location for accurate, up-to-date information that is accessible to transfer students, faculty, and staff needing such information.

Center personnel have been funded at some public universities and community colleges in order to have a central location for information about course and program articulation. These centers are staffed by an articulation officer who serves as a kind of coordinator with community colleges with respect to transfer matters, and who may have a joint appointment with one or more neighboring colleges. The centers are now in their second year of operation and are being evaluated with respect to their impact on numbers of students who transfer, on ease of articulation, and their

relationship to other campus programs and services.

The California Legislature also appropriated funds in 1985 for the implementation of an interactive, computerized transfer information system on selected community college and university campuses. Project ASSIST, Articulation System Stimulating Interinstitutional Student Transfer, is a joint development of the University of California, Irvine, and Los Angeles Harbor College that was facilitated by a four-state articulation project that the Western Interstate Commission on Higher Education coordinated during the mid-1980s with grants from the federal Fund for the Improvement of Postsecondary Education.

ASSIST is designed to provide:

- Convenient access to accurate and comprehensive information about the variety of postsecondary transfer alternatives available to community college students;
- A means by which students can determine the transferability of courses taken in a two-year institution to any participating four-year institution;
- A means by which students can assess their individual progress toward and satisfaction of requirements for any articulated program in any participating four-year institution; and
- A means by which to identify specific courses that may be taken in lieu of requirements in any participating four-year institution.

ASSIST's computer capacity is large enough to provide transfer and articulation information from all California colleges and universities, but at present it tends to be limited to the public universities to which the largest number of students from particular community colleges transfer. Its major function is to provide campus-specific information about course and program articulation, but it also describes the academic programs offered, admission criteria, student financial aid, housing, support services, the campus environment, and calendar with deadlines for submitting various types of applications.

Project ASSIST is also located on various public university campuses where it is more likely to serve the function of keeping track of the status of community college courses approved for transfer and articulation agreements than providing information to transfer students. Under no circumstances is it intended to replace transfer counselors but instead to reduce the amount of time counselors must spend in simply giving out specific information to potential transfer students.

Published curriculum guides showing equivalent courses and articulated programs are a tool on which many states and groups of institutions depend, even when the computerization of such information for easy access and updating seems timely. Course equivalency guides exhibit lists of community college courses offered for transfer credit and their equivalents in one or more four-year institutions to which students are most likely to transfer. Sometimes the guides provide additional information on the use of such transfer credit in meeting transfer or graduation requirements.

In Arizona the *Higher Education Course Equivalency Guide* was created in 1972 to facilitate the transfer of credits among Arizona public postsecondary institutions. The guide is used to determine the equivalency of Arizona community college courses to those at Arizona's three state universities. The community college courses and credits are listed alphabetically by course prefix and number in ascending order. Course equivalences are indicated using the abbreviations identified in the guide.

The guide is under the jurisdiction of the Course Equivalency Guide Steering Committee, which was established by a Joint Conference of the Arizona Board of Regents and the State Board of Directors for Community Colleges of Arizona. It is stored and updated at Arizona State University and published annually by the Arizona Commission for Postsecondary Education. Guide coordinators at each of the public postsecondary institutions submit changes to its editor who distributes updated printouts of the guide. The New York course-equivalency guide of the City University of New York, first published in 1985, is another example of this transfer counseling tool.

While useful as documentation of course equivalencies, such guides have two major limitations: (1) they become outdated soon after publication and may thus yield erroneous information; and (2) students do not have easy access to them without consulting a transfer counselor or adviser.

Institutional transfer curriculum guides normally show the sequences of lower-division courses in which students should enroll in order to complete general education or breadth requirements and transfer into a specific baccalaureate-degree program at that institution.

A major example is provided by the State University of New York at Albany that publishes a curriculum guide for each of its major feeder colleges in which recommended lower-division programs are shown for the most popular baccalaureate-degree majors, together with other kinds of information that are useful to potential transfer students.

An exception to the institution-specific document is the transfer curriculum guide published by the Coordinating Board for the Texas College and University System that displays a suggested curriculum for each of 15 majors that all institutions offering the degree major are encouraged to adopt or adapt.

Florida, Illinois, and California have adopted different types of course-numbering systems that facilitate articulation at the course level.

Florida's common course numbering system is the most comprehensive of the three. It is a statewide system that is mandated for public colleges and universities and may be expanded to include courses not offered for baccalaureate-degree credit, such as noncredit vocational courses, and those offered by independent institutions. The system is developed and maintained with special state funding that is supplemented by institutional support of faculty members and administrators who participate in committee activities that are essential to reaching agreement about course commonality.

Sub-purposes of the system are:

- To provide the framework for each subject-matter area that all institutions use to categorize courses in the system;
- To be a joint undertaking of Florida's public community colleges and universities, with coordination by a state agency;
- To place responsibility with the faculties of these institutions for determining course equivalencies on the basis of detailed course descriptions and syllabi;
- To establish course inventories of all equivalent courses offered by Florida's public institutions; and
- To provide statewide course descriptions or course equivalency profiles for use in determining equivalencies of new or modified courses.

The first decision in creating Florida's system was to choose course classifications that would transcend institutional organizational structures. In other words, the system would be independent of department or divisions offering the courses at a particular institution. Instead, courses are categorized according to subject matter or content, independent of level or mode of instruction but taking into account prerequisites; the kind of student for whom the courses are designed; level of complexity; depth and detail with which content is treated; and outcomes—topics or specific skills.

A second major decision was to establish faculty committees in the subject-matter areas to develop and maintain the system. Committees include faculty representatives from both community colleges and the universities and are chaired by a member who serves as coordinator with the system's central office staff. Responsibilities of these committees are developing taxonomies, analyzing course descriptions, assigning course numbers, and determining course equivalencies.

Florida's statewide course numbers include a three-letter prefix designating the subject-matter area, a three-digit number assigned by the system, and a single institutionally assigned digit for the level at which the course is offered (for example, freshman or sophomore). Common titles and descriptions are developed for all courses, but institutions are not prohibited from using their own titles and descriptions as well.

The number of subject-matter areas and courses in the system is expected to increase over time, and Florida's institutions both add and make changes in courses now in the system. Central-office staff receives and examines courses transmitted by institutions for action in the system to ensure that proposed numbers reflect the proper subject-matter area with respect to content, and that course descriptions are detailed enough to make an appropriate course-number assignment. Questions and staff recommendations are referred to subject-matter committee coordinators if the proposed course placement seems to be inappropriate. These committee coordinators, with the help of their committees in difficult cases, either approve the proposed course numbers or assign more appropriate numbers before the courses are entered. State agency action is required when institutions

change the content, prerequisites, or numbers of existing courses as well as develop new courses.

Subject-matter committees meet upon request of the system's staff, the State Department of Education, or committee members if problems are perceived or changes in legislation affect the subject-matter area, and to review transactions made by the coordinators. Central office staff provide support to the committees.

Institutional contact persons are also critical to the success of the system. They are responsible for ensuring that courses have been approved by their institution's curriculum committee before submission to the state agency, that new courses have been given proposed prefixes and numbers, and that course descriptions or syllabi are provided to the central-office staff. They also receive information from these staff members about action on course numbers and are responsible for notifying appropriate campus staff about such actions.

Illinois has a generic course-numbering system that is now limited to its community colleges and was developed for use in differential funding of different types of courses. Although not designed as or intended to be an articulation tool, it is serving this function as well, in that courses offered for baccalaureate-degree credit are assigned numbers that are common to all colleges, and a college wishing to add a transfer course to its curriculum simply selects the appropriate number from the statewide numbering system.

The California Articulation Number (CAN) system is a regionally organized approach to reaching agreement about adding digits to institutional course numbers for courses that community colleges and four-year institutions agree are interchangeable in the sense that one institution's course may be taken in lieu of another's in order to meet admission or degree requirements. Each institution retains its own course numbers while adding common digits for courses in the CAN system and avoiding the sometimes restrictive concept of equivalency of courses taught in different institutions. The system is now supported by state funds but is in a sense voluntary, in that there is no legislative mandate that all institutions participate in it. The state plan for implementing CAN anticipates full participation of all public institutions within some reasonable time, although no means of combining regional agreements about common numbers was proposed after its adoption in 1984.

A useful first step toward common course numbering that is used in many states in and outside the study is the designation of ranges of numbers for lower- and upper-division courses, perhaps for levels within divisions, and for baccalaureate-level transfer and other degree-credit courses offered by community colleges. Remedial and other non-degree-credit courses that qualify for workload credit may be assigned still another range of numbers as well as noncredit courses that do not yield workload credit. These numbering systems require the adoption and use of common definitions of different types and levels of courses offered by two- and four-year institutions for purposes of articulation and transfer, but stop short of assigning the same numbers to courses taught in different institutions.

STAFF PREPARATION AND DEVELOPMENT

Inquiry was made into state-level concerns about and activities involving the preparation and in-service development of community college staff, faculty, counselors, and administrators.

Mindful of recent concerns about the preparation of faculty and staff for both the public schools and institutions of higher education, both to replace those who will be retiring and to work with anticipated increases in enrollment, the project staff decided to include questions about community college staff preparation in its interview schedule. This line of inquiry elicited little expression of concern about the extent of the need or the nature of the desired preparation, although concerns were expressed about the qualities of present and future leadership in the community colleges.

The future of doctoral-degree programs to prepare administrators for community colleges and higher education generally is unclear at this time, although at least one university in each state still offers such programs. As professors of higher education retire from these universities, doctoral programs that are targeted for higher education administration are often merged with others such as public policy or administration without respect to level of education, except where the doctor of education (Ed.D.) is retained for practitioners.

No useful information was obtained concerning plans or prospects for the preparation of faculty and other types of staff to work in community colleges. The changing characteristics of community college students—older and often underprepared or otherwise disadvantaged—and their shift in interest from the liberal arts to vocational/technical education, would seem to indicate a need for attention at the state level to the preparation of future community college faculty and staff. Questions about the nature of future faculty preparation stem in part from the inquiry into baccalaureate-degree opportunities for students completing two-year vocational/technical programs, since such students may be a source of future faculty if they are able to move up the educational ladder to the baccalaureate degree and beyond.

In-service development programs for faculty and staff, often offered by community colleges without collaboration with four-year institutions, are commonplace and diversely funded and organized. The California Legislature regarded this area as sufficiently important in 1986, and it enacted into law a bill requiring the Postsecondary Education Commission to study the matter at all levels of education.

Three examples of community college staff development that were learned about in the study include collaborative programs and another that was developed in and by a particular community college.

The Evergreen State College, a public four-year institution in Washington State, established its Washington Center in 1985 with a grant from the Exxon Foundation, in order to provide inexpensive, high-yield methods of improving undergraduate education by exploring learning communities and faculty

development strategies in partnership with 18 colleges and universities. Faculty exchange between community colleges and four-year institutions is a major program for which the center serves as broker. The program includes team teaching with "native" faculty and the development of new curriculum materials or programs with an emphasis on coordinated interdisciplinary studies that focus on a contemporary theme. An example of a "bridge" program with Tacoma Community College is a jointly taught interdisciplinary program called "Cities" that focuses on a study of Peking, Tokyo, and Vienna in the seventeenth century and is designed to increase the persistence of ethnic minority students in baccalaureate-degree programs.

In North Carolina the State Department of Community Colleges administers and staffs a Professional Development Institute, which presents workshops to community college system personnel in five regions. Each institution is assigned a Professional Development Institution representative to provide assistance in the operation of workshops by conducting needs assessments, distributing information, hosting workshops, and acting as local resource persons to institutional faculty and staff. An additional $1.3 million in one-time funding has been appropriated by the legislature for staff development efforts. The system office plans to allocate a portion of this money to the institutions on an FTE basis, a portion on the basis of competitive grants, and a portion to provide specific updating and training of faculty in business and industry.

The university system has not been involved in these staff development efforts with the community colleges except to sponsor one annual institute for administrative staff.

The state of Florida encourages staff development by allowing its community colleges to set aside 2 percent of their previous year's salary budget for staff and program development. In the early years of the program, community colleges were required to submit their proposals for using the funds to the state for approval, but such approval is no longer necessary.

One example of the use of these funds is provided by Miami-Dade Community College. After several years of activity to develop strategies to improve assessment and placement, counseling, persistence, and performance by means of highly sophisticated computer use, the college is now turning to a faculty development program to improve teaching and learning. Faculty members are serving on a planning committee to create an in-service program to design strategies to increase learning on the part of students who are very heterogeneous with respect to their ethnic/cultural backgrounds, English-language skills, and preparation for college. A faculty member from a university outside of Florida who is an expert in teaching learning strategies is expected to serve as a consultant to Miami-Dade.

PROGRAM REVIEW FOR ARTICULATION

An unanticipated finding of the study is the use of state-level program review procedures to promote good articulation of two- and four-year programs and increase transfer opportunities. While articulation is not used as a formal standard to be applied in reviewing

proposals for new baccalaureate-degree programs, staff in states where improved articulation between two- and four-year institutions is a priority in statewide planning is examining proposals for evidence that efforts have been made to provide opportunities for community college transfer students to enter such programs after completing an appropriate associate-degree program.

New York State is one example. The trustees of the State University of New York are committed to providing transfer opportunities to students completing career as well as liberal arts associate degrees, and state-level planning and program review activities are cognizant of this commitment.

Transfer in Florida is tied inextricably to the associate in arts degree, but here too state-level review of academic programs concerns itself in part with provisions for articulation to insure smooth student progress through the upper division.

Specialized accrediting associations with no apparent commitment to articulation between community college and baccalaureate-degree institutions pose some problems for states and institutions that are working to improve transfer opportunities. The American Association of Collegiate Schools of Business provides a recent example in that it has adopted standards for accreditation that restrict courses in business that have previously been included in the lower-division portion of the curriculum and thus negate many existing articulation agreements. These community college students who seek some preprofessional preparation before transfer may no longer be able to earn a baccalaureate degree in business in institutions accredited by the association.

State licensure boards also impose some curriculum restrictions that negate articulation agreements with respect to lower-division courses.

JOINT USE OF FACILITIES AND RESOURCES

In some states, urban areas with good community college programs lack public university programs except perhaps through extension courses that do not lead to a degree. The last decades of the twentieth century are experiencing shifting populations and a decreasing number of young people going to college, together with scarce state resources for establishing new four-year institutions in underserved areas. At the same time, pressures exist for creating opportunities to complete baccalaureate degrees for adults in populated but underserved areas.

Two primary options for achieving this objective are (1) authorizing community colleges to award the baccalaureate degree and (2) offering baccalaureate degrees through collaboration between two- and four-year institutions that may involve joint use of facilities and sharing of faculty and other resources.

Cooperative arrangements for offering baccalaureate-degree programs, such as community college faculty teaching courses for baccalaureate degree-granting institutions and use of community college instructional facilities by university faculty, are not new but have for the most part been informal and without state-level authentication. What is

new is state agency involvement in encouraging and facilitating such collaboration—for example, in Florida, Minnesota, and Washington.

In Florida, the legislature in 1977 amended a statute enacted the previous year that authorized the construction of facilities for joint use by school districts so as to extend its provisions to community colleges and state universities. The benefits of and rationale for state support for such facilities are set forth in the Master Plan for Florida Postsecondary Education. The plan specifically recommends that any new state university branch or center reflect the state's commitments to the "two-plus-two" approach involving community college lower divisions plus state university upper divisions and to utilize fully joint programs and facilities of independent and public institutions.

According to a 1985 report of the Florida Postsecondary Education Planning Commission on Joint-Use Facilities for Postsecondary Education, Florida appears to have moved furthest among the 11 states in the study in terms of funding new joint-use facilities. The state had seven community colleges and five state university campuses involved in eight such projects in 1985. One of the most important joint-use operations extant at that time involved Florida Atlantic University and Florida International University with Broward Community College in Fort Lauderdale. Broward County is one of the populous areas of Florida that has been least well served by its public university system in terms of upper division and graduate programs offered in the county. Therefore, a joint-use facility has been constructed with more than $9.5 million in state funds on land adjacent to and leased from the community college's downtown facility and contiguous with the Broward County library that will provide expanded library services. The presidents of the three participating institutions have reached a firm agreement that the universities' offerings will be limited to upper-division and graduate programs, but academic plans for such offerings are not yet complete.

Area vocational/technical institutes, community colleges, and some state universities in Minnesota now perform two-year college functions in different communities but with some centers of population still not within easy driving distance of upper-division and graduate programs. To meet this need in the Rochester area, the state is now supporting a two-plus-two approach in which Winona State University offers the upper-division portion of baccalaureate-degree programs in a facility specially constructed for this purpose on the Rochester Community College campus.

Washington has had a long history of mostly voluntary, cooperative use of public and private educational resources to expand postsecondary educational opportunities in response to shifting population centers and needs. Public school districts, community colleges, state universities, a private technical institute, and independent colleges and universities are currently involved in some kind of cooperative arrangement to offer associate and baccalaureate degrees.

Central Washington University's off-campus centers on community college campuses are the most extensive network of such programs

at this time, with centers at four community colleges offering upper-division programs leading to degrees in such fields as business, criminal justice, and the liberal arts. The state has not funded the construction of facilities for these centers but funds enrollments at all but one, where programs must be self-supporting.

Yakima Valley Community College and the independent City University reached an agreement in 1984 that allows City University to lease space in community college facilities at very low cost for upper-division courses leading to a degree in computer science in a program that is closely articulated with the community college program in that field. The agreement calls for the joint use of equipment as well as facilities, with each institution providing faculty to teach its respective courses.

10. CONCLUSIONS—OLD AND NEW

Conclusions from the current study follow for each major area of inquiry, together with related conclusions from the study conducted in the early 1960s and observations about their validity now.

UNDERGRADUATE ADMISSION

Four-year college and university policies for admitting undergraduate transfer students vary widely from "open admission" for anyone with a grade-point average of "C" or better in community college coursework, to "selective admission" for those who would have been ineligible for freshman admission on the basis of their high school record. Admissions policies also vary from subjective or unclear in terms of standards to be met, to specific and highly prescribed. With some exceptions, increases in university requirements and standards for freshman admission are not producing changes in transfer and admission policies. Community colleges for the most part are not moving away from open admission to the college generally for high school graduates and others able to benefit from the instruction offered, although they exercise selective admission to some programs, often after the student has enrolled in the college.

The open-admission policy has worked well in the past in making opportunities for college available to "late bloomers" and others who are not ready for study in four-year institutions when they graduate from high school, but the implications of more stringent freshman admission policies being adopted by universities need to be examined with respect to what should be required for admission of transfer students with high school deficiencies in order to insure their success in upper-division coursework.

As four-year institutions enroll and retain better-prepared freshmen as a result of stricter requirements and higher standards, transfer students admitted under open admission policies may find it difficult to compete at the upper-division level if they have not had very strong preparation in the community colleges.

Four-year institutions may be underenrolled in the next several years because there are fewer high school graduates, but some university campuses and programs have more qualified applicants than they are able to enroll and must turn away applicants for both freshman and advanced standing admission. Criteria for the selection of transfer students to be offered admission are not always clear, and standards—for example, the specific grades to be earned in prerequisite courses

for the major—vary from year to year in relation to the demand for a limited number of spaces and the quality of the applicant pool. Lack of understanding of the admission process used by campuses and specialized programs with limited access discourage some community college students from attempting to transfer and delay others in making the transition to a baccalaureate institution and program if they cannot transfer in accordance with the articulated plan they have been following.

Specific agreements and guarantees appear to be helpful to community college students who are ready to set educational and career goals when they first enroll, but such agreements must often go beyond simply meeting associate-degree requirements and include the specific courses and grades that must be presented for admission to a limited-access program or campus. Community college students often want to keep their transfer options open as long as possible and decline to enter into a formal contract to guarantee transfer, but such students need clear, timely information about what they must accomplish in the lower-division in order to have reasonable assurance of admission to limited-access institutions and programs. At the same time, such institutions need better information about the number and progress of community college students who will become applicants at some future time—that is, who are in the pipeline—and about the characteristics of students who have successfully completed baccalaureate programs.

One conclusion about admission that was reached in the earlier study continues to be valid today:

Some universities with selective admission standards are admitting community college transfer students with no more than a C average on some minimum amount of coursework, without assessing such students' chances for competing successfully with "native" students.

The trend toward greater prescription of high school preparation or higher academic standards for university admission of freshmen has been noted as a potential problem for transfer students who would not have been admissible as freshmen. Of particular concern is the practice of some four-year institutions of admitting transfer students with poor high school preparation after only one semester or year of satisfactory work in a community college.

Transfer admission requirements appear to be based more on philosophy and the marketplace than on research to improve the prediction of who is most likely to succeed. More specifically, institutions that are underenrolled are likely to admit any applicant with a community college grade-point average of C or better, while those with an oversupply of qualified freshman applicants are likely to institute selective procedures for transfer applicants, with no clear rationale for the level of selectivity or the priority to be given to community college applicants in relation to first-time freshmen and other transfer applicants.

Finding the institution and program to which the community college student has reasonable assurance of being admitted and then selecting the appropriate community college courses to articulate with that institution's

requirements is an access problem that goes beyond counseling.

ASSESSMENT

The earlier study concluded that dropouts and graduates from the community colleges tend to earn similar average scores on college admission tests and that test results should not be used to deny a transfer student admission to the upper division. If grades earned in the community colleges are used appropriately, test scores need not be used to demonstrate a student's capacity to do upper-division work.

Emphasis has shifted since the 1960s from concern about admission tests (primarily the SAT and the ACT) to the assessment of basic skill proficiencies, the results of which may be used to place students in remedial courses and, in some cases, pass them on to upper-division work or graduation. Statewide assessment programs for students in public colleges and universities are increasing—not for admission but as an accountability measure as students progress through undergraduate programs. The focus until now has been on assessment at entrance, and the impact on transfer of the movement to assess outcomes is difficult to predict at this time. The study found no evidence of discrimination against community college students intending to transfer, compared with native students in four-year institutions. In some cases the latter group may have the advantage of being able to continue taking courses toward graduation while awaiting a second opportunity to obtain a satisfactory score on the exams for upper-division status.

There is little rationale that is common to the states in the study beyond the need for assessment for accountability. For example, some states require all college and university students to achieve the same minimum score on tests of basic skills as a condition for enrolling in college-credit courses while others leave the decision about whether to assess and, if so, the choice of assessment instrument and passing score to individual institutions or systems.

REMEDIATION

The earlier study concluded that community colleges are doing a more effective job in preparing their good students for transfer, good students being those with strong high school preparation and good test scores, rather than those with serious basic skill and high school course deficiencies.

Community colleges are now enrolling larger numbers of students with more serious deficiencies in preparation for college-level work than in the 1960s, including many for whom English is a second language. The success of the colleges in preparing educationally disadvantaged students for transfer has not been adequately assessed, nor was it in the earlier study. There is a lack of consensus about how and when students needing remediation should be certified for enrollment in degree-credit or transfer courses—At the completion of a remedial course or program with a satisfactory grade? With a satisfactory grade and a passing test score? Upon retesting at any time that results in a passing score? Universities now appear to be satisfied with the quality of community college remedial programs for students attending four-year institutions as freshmen since they are asking community colleges to perform this function for them.

EDUCATIONAL EQUITY AND OPPORTUNITY

Equity for ethnic minority groups that are underrepresented in higher education was not yet an issue at the time of the earlier study. Now it is clear that if educational equity is to be achieved, more concerted, focused efforts are needed to identify, motivate, prepare, and otherwise support ethnic minority and other disadvantaged community college students who may have the potential to complete baccalaureate-degree programs.

A lack of special state policies and funds may be a deterrent to making such efforts, especially in states whose economy is already restricting general expenditures for higher education. Private funding has enabled some community colleges to establish special programs to increase transfer opportunities for ethnic minority students, but state funds may be needed to continue and fully implement such programs as well as to expand them to other institutions.

While community colleges have primary responsibility for increasing the flow of transfer of ethnic minority students, they need to secure the active involvement of educational institutions at all levels in cooperative rather than competitive programs to keep such students in school and motivate them to attain the highest level of education that they are capable of reaching.

Programs are needed that focus on increasing the students' levels of aspiration and motivation. Colleges are reporting that disadvantaged students who are capable of doing baccalaureate-level work often enroll in programs that lead to immediate employment rather than transfer, and take courses in the social sciences and humanities rather than the physical sciences and mathematics.

Finally and for many reasons, the community colleges will continue to be the institutions enrolling the largest proportion of Black, Hispanic, and American Indian students, even at a time when four-year institutions are making efforts to enroll larger numbers of better-prepared freshmen from underrepresented minority groups.

CAREER EDUCATION TO THE BACCALAUREATE DEGREE

The earlier study concluded that the practice of denying graduates of so-called "terminal" occupational programs an opportunity to transfer to complete a baccalaureate degree was undesirable because it might discourage good students from enrolling in such programs or prohibit them from continuing their education.

It also concluded that while focusing on creating new community colleges to offer lower-division work, master planners gave insufficient attention to the need for increased opportunities at the upper-division level in terms of both space and new types of programs for community college graduates.

Both conclusions have a good deal of validity now, although space at the upper-division level is less a problem than finding the four-year institution that best fits the transfer student's needs.

The need for baccalaureate-degree programs for students who complete associate degrees

designed to prepare them for employment is greater today than in the 1960s for several reasons. New associate-degree programs in the technologies are attracting bright, well-prepared young students who will want to move up career ladders that require further formal education beyond the associate degree. At the same time, the associate in arts degree is being promoted as the guarantor of admission to junior standing with acceptance of full transfer credit, but with no such assurances for graduates of technical programs.

Articulation is made easier by the classification at entrance of new community college students as "transfer" (associate in arts) or "employment-bound" (associate in applied science), but to do so is to limit opportunities for educational and career development while students are in college and later in employment.

The study concludes that opportunity to pursue a baccalaureate degree is not foreclosed to students in community college programs leading to employment, but that articulation is in a sense forced and thus unnatural, and that a new approach is needed to designing two-plus-two programs related to career ladders.

Two less important conclusions are that: specialized accrediting groups and licensing boards may deter the development of career/educational ladder programs by prohibiting the offering of employment-related courses at the lower-division level; and four-year institutions that are responding to increased native student interest in baccalaureate-degree programs leading to employment may develop new four-year programs in fields that have been the province of the community colleges, thus inhibiting transfer and articulation because the same courses will be offered at different levels by the two types of institutions.

DATA BASES RELATED TO TRANSFER

Since the 1960s a great deal of progress has been made by colleges and universities in the use of computers for the collection, storage, and analysis of transfer student data and related course and program information. Still data bases at the state and systemwide levels are not established in a way that facilitates student tracking from institution to institution, or through programs to the attainment of a baccalaureate degree. Nor are data bases with information about courses and programs usually organized in a way that aids articulation between and among institutions—for example, to show which community college courses are granted baccalaureate credit by particular institutions in satisfaction of certain degree requirements.

Hard-copy transcripts were obtained for students in the earlier study from which information about performance and persistence to the degree was extracted. The study observed that conclusions about the level of persistence and quality of performance of the more than 7,000 community college transfer students to 43 four-year institutions in 10 states could not easily be drawn because of the great diversity of findings for students in different types of institutions and programs.

The study also concluded that community college students are very likely to succeed after

transfer if they choose the four-year institution that is most appropriate for their abilities and previous achievement, but they often make poor choices because of lack of counseling or inadequate information. A final conclusion on this topic was that community college students considering transfer need to have better information about the institutions in which they might complete baccalaureate-degree programs in order to be able to make a good choice. Counselors and faculty members need to be better informed in order to assist students in making choices and plans at all levels.

No research on student persistence and performance was undertaken as part of the current study, but the conclusions from the earlier study are probably still valid today, especially in light of the larger numbers of transfer students and the diversity of opportunities available to them.

While most state-level data bases contain unit student records, the absence of a unique identifier such as a Social Security number is an obstacle in tracking them from institution to institution and year to year. The use of such identifiers for research is not interpreted as contrary to law in most of the states in the study.

Community college students' need for better up-to-date information on which to base their decisions about transfer has not diminished since the 1960s. However, information is less a problem today than techniques and services for making it available to students, faculty, and counselors in an accurate, timely fashion—not only about institutions but also about program and course articulation. Student performance data are also needed to help students in making transfer decisions, given the differences that exist among four-year institutions in the kinds of programs they offer and freshmen they enroll.

The technology is now available to improve the compilation and delivery of comprehensive information to transfer students and those who work with them, as well as for tracking and reporting on their performance, but it continues to be underutilized in most states and institutions of higher education. Barriers to better use of available technology may include: the fear of counselors that they will be replaced or that their role will be diminished by computers; and the inadequacy of the student and course data bases that are essential to the efficient use of the technology.

OTHER CONCLUSIONS—THEN AND NOW

Several conclusions were reached in the earlier study about matters that were not specifically investigated in the current study. However, impressions were formed from interviews and research reports that provide a basis for comment on the validity of the earlier conclusions in the mid-1980s. The old conclusions appear first in the material below, followed by comments on their current validity.

In the early 1960s, the average academic ability level of students who entered universities as freshmen tended to be higher than that of students who graduated from community colleges and transferred to universities. For this and reasons related to adjustment after transfer, the expectation that transfer students'

upper-division grade-point average would be as high as that of native students was unrealistic. Success should be defined as transfer students' academic standing and persistence to graduation, rather than the upper-division grade-point differential with native students.

Now, as universities become more selective in admitting freshmen, the likelihood that transfer students will not do as well as native students in upper-division work increases. When university majors and campuses become impacted, access for community college transfer students who meet minimum eligibility standards becomes an important issue, especially in the context of student affirmative action program goals. The need to maintain a good mix of academic abilities and preparation in the community college student body remains high.

In the early 1960s, community colleges whose students transferred to different types of institutions and into various majors expected to find a range of grade-point differentials between grades earned in the community college and after transfer, many of them equal to a half grade-point or less. The goal of zero or positive differentials for all institutions and programs may have been undesirable insofar as it might have led to denying transfer opportunities to some students who could succeed in the upper division.

Now, grade-point differentials continue to be a primary yardstick by which community colleges measure their success in the transfer function, with less attention to percentages of students earning satisfactory grades and rates of persistence to graduation.

In the early 1960s, community colleges awarded grades of C for many reasons, not all of which were associated with academic achievement. Therefore, "C" grades may have been poor indicators of probable success in upper-division work in some programs and institutions. The problem then stemmed from the colleges' unwillingness to give grades of D and F to students who completed courses, rather than overall grade inflation.

Now, colleges have for the most part returned to use of the full scale of grades although policies vary with respect to repetition of courses, use of pass/fail in lieu of grading, and forgiveness of penalty grades.

In the past, the special needs of new community college transfer students for orientation and other student services tended to be overlooked by four-year institutions that were more accustomed to working with new freshmen than transfer students entering the upper division. The same programs may not have served both groups well.

Now, progress has been made in this area since the 1960s study, but universities tend to offer separate but the same orientation programs for new freshman and transfer students, while failing to respond to the special needs and characteristics of the latter group.

In the early 1960s, community college transfer students gave high ratings to their community college instructors while suggesting certain changes that would prepare them better for university-level work. A frequent suggestion involved a gradual acceleration of the pace of instruction in the community colleges

to enable students after transfer to keep up with those who were enrolled in a university for their lower-division work.

The suggestion is highly relevant today as community colleges enroll increasing numbers of students with serious deficiencies in preparation for college-level work. While the 1960s study called attention to the need for increasing the amount of work expected of students as they progressed through the lower division, the need today is to ensure that the scope of the transfer course or program is not reduced to accommodate the needs of educationally disadvantaged students or as a result of the increased use of part-time faculty.

In the earlier study public perception of community colleges tended to be that of an institution for the "cannots" academically, and the "have-nots" financially, rather than an appropriate place for a majority of high school graduates to begin their college education.

Community colleges now enroll an increasingly diverse student body, in terms of both personal characteristics and academic abilities and interests. Compared with four-year institutions, their students are poorer, often older, more likely to be Black or Hispanic, and less well-prepared for college-level work. This limited perception of community colleges continues to be a problem in some localities.

11. CONCLUDING COMMENTS

STATE ROLES AND RESPONSIBILITIES

Since the earlier study of transfer and articulation, the trend has been toward greater involvement of state government—not a trend away from institutional, voluntary articulation activities, but toward additional regulations and policies that are applicable to public institutions statewide. State legislatures enact bills and resolutions expressing intent with respect to the treatment of transfer students and courses, with implementation to be carried out by state commissions or coordinating boards for higher education by the adoption of statewide policies, regulations, or agreements. The thrust is toward uniformity and simplicity to insure the fair and equal treatment of all transfer students by all four-year institutions by means of standardized course descriptions and numbers; a common core curriculum of general education courses; recognition of the associate in arts degree in fulfillment of lower-division requirements; and use of a common examination to pass both native and transfer students into the upper division.

This vastly increased activity on the part of the state focuses for the most part on the articulation of courses and programs and tends to ignore issues relating to the admission of transfer students by selective four-year institutions with limited-access campuses and programs. Stated bluntly, transfer students who are admitted to the institution and program to which they apply may benefit from state policies or agreements about transferring credit and fulfilling requirements, but the conditions under which they may be admitted and probability of such action remain unclear. The problem is especially acute in large, complex state universities that delegate responsibility for admission practices to schools and colleges or campuses within the university that may vary widely with respect to selectivity and demand for admission.

Because of the imbalance in attention being given to transfer admission versus articulation, statewide mandates and agreements about the articulation of courses, programs, and degrees may be little more than empty promises to potential transfer students who are then denied admission to the institution or program for which they have prepared. A community college's associate in arts degree may be the best general preparation for a majority of its students planning to complete a baccalaureate degree in the liberal arts. Unfortunately, it may be poor or inadequate preparation for upper-division work in the "hard" sciences or engineering, compared

with the preparation given native students. It may also make the community college transfer student less competitive for admission to such programs than others whose lower-division programs have been planned to include necessary prerequisites and more intensive coursework in mathematics and science.

A potentially serious limitation of some statewide articulation agreements is their failure to take into account the heterogeneous nature of the community college transfer student population and the unlikelihood that a single route, such as the associate in arts degree, is necessary or desirable as preparation for transfer. To do so is to limit severely the opportunities for students who are underprepared for college when they graduate from high school; undecided about how much and what kind of postsecondary education they want; and seeking education for employment while wanting to keep transfer as an option. Some community college students are ready to transfer before completing their degree program and should not be penalized for doing so; others want preparation for both employment and transfer and should have such opportunities open to them without undue duplication of coursework.

Thus the development of state-level policies and regulations relating to course equivalencies, general education requirements, and recognition of the associate in arts degree for transfer is judged to be laudable, necessary, and effective in simplifying the transfer and articulation processes and in making transfer more equitable for community college students. However, current statewide policies and agreements may not be adequate to meet the need for transfer opportunities for students with diverse patterns of enrollment, educational, and career goals; nor should they supplant more specific agreements reached by pairs or groups of institutions and faculties in particular disciplines or career fields. A useful state-level function that might be added to those now being performed is the simple recording of agreements that are not statewide in nature in a computer data base for dissemination statewide and monitoring with respect to recency of updating and consistency with state policies.

FACULTY ROLES AND RESPONSIBILITIES

Increasing faculty participation in articulation activities at the state, regional, and local levels is having positive effects on the transfer process in ways that go beyond the agreements that are reached. The most important result may well be the increased respect that faculty in similar disciplines in community colleges and four-year institutions have for one another as they work together on curriculum problems whose solution produces better articulation. A concomitant outcome of such participation is often some refinement or improvement of community college transfer course syllabi or teaching materials, as well as the discovery of specific problems that community college students experience in upper-division courses because of some deficiency in a prerequisite course or courses and duplication of units of instruction at the lower- and upper-division levels.

However, increased faculty participation has some limitations and drawbacks. The first is the number of faculty members who can reasonably be expected to participate in non-local

activities together with the basis for their selection, the cost (for travel and released time), and continuity in membership on task forces and committees. In most states, the number of community colleges that can have memberships on statewide task forces is limited as is the number of faculty participants from any one college. The primary beneficiaries, both individual and institutional, are those who participate. However, the benefits of participation need to be shared, and agreements that are reached need to be accepted and implemented by all institutions and their faculties. Common problems for such groups are rotation of membership that leads to interruption of productive work, the unintended abrogation of articulation agreements as a result of poor communication, or lack of information.

Still another limitation concerns the nature of the faculty who participate. The more serious problem appears to be the absence of high school faculty in general and vocational education faculty in particular from articulation task forces with community college and university representation. The problem is partly the nature of the high school teacher's classroom responsibilities that limit his or her ability to travel to meetings, and partly an attitudinal problem of college and university faculty in being reluctant to view high school teachers as equal partners in articulation activities. Involving high school and community college faculty who teach occupational courses that fall outside what are regarded as the technologies is also more difficult than involving faculty in the arts and sciences, since the former groups tend to have less time to work on articulation and less experience in doing so.

A final issue is the possibility of reduced time available for community college faculty members to work with transfer students as they increase the time spent on articulation activities with faculty from other institutions. Full-time faculty in the community colleges have relatively heavy teaching loads that may include evening as well as day classes. Their role in working with transfer students outside the classroom varies from college to college, but there is an obvious need for faculty to build on strengthened articulation agreements, which result from increased faculty participation, by making sure that they are translated into benefits to the transfer student. These benefits include more complete, accurate information about transfer courses, programs, and requirements.

SPECIAL FUNDING

Few states are appropriating special funds to implement policy directives or regulations to improve transfer and articulation—perhaps because transfer is not seen as a problem that requires special funding. This is not to say that money from the operational budgets of institutions and state or system offices is not being spent on articulation, but that there has been no statewide efforts like the national Urban Community College Transfer Opportunity Program of the Ford Foundation to increase the flow of transfer students, particularly from underrepresented ethnic minority groups.

This report draws no conclusion about the need for additional, specially targeted state funds to improve transfer and articulation because there is insufficient evidence that a problem exists that requires such funding

beyond what is now being spent. However, an earlier conclusion is repeated that existing data bases are inadequate for tracking transfer students from institution to institution and providing information about their performance and the articulation of their courses and programs that is useful in evaluating the transfer function and identifying problems that need attention at the state level.

ARTICULATION AS COLLABORATION

Both fiscal problems and special incentives for interinstitutional cooperation are leading colleges and universities to collaborate in ways that go beyond the articulation of courses and programs. Articulation is one form of collaboration that often implies a junior/senior relationship because of the approval authority vested in the senior institution. Collaboration, on the other hand, implies a more equal sharing of responsibility or cooperation between and among institutions in carrying out their assigned missions. Some examples of promising collaborative efforts involving community colleges and four-year institutions include common assessment programs at entrance and for students moving to upper-division standing; use of community colleges to offer remedial instruction in the basic skills; joint construction and use of facilities and services; and joint academic planning to reduce duplication of courses through concurrent enrollment or cross-registration of students.

Collaboration is beginning to go beyond cooperation between community colleges and four-year institutions so as to include area vocational/technical schools or institutes, which may be located near community colleges offering similar programs for credit leading to a degree. Such collaboration is most likely to involve the sharing of courses in the basic skills, general education, or occupational skills but may include joint use of equipment and facilities as well.

Voluntary collaboration between public and independent colleges and universities existed long before recent state efforts to encourage and reward collaboration in the public sector. What is new and difficult but not impossible, however, is collaboration with private postsecondary institutions offering nondegree programs for immediate employment. The incentive to public colleges in this instance is to collaborate so as to prevent competition by developing some type of course and program articulation with the private institutions that may begin to award the associate degree in the absence of such collaboration.

The discussion of increased collaboration could be extended beyond educational institutions to include business and industry, community organizations, and other groups whose main function is not education. Instead it has been limited to institutions offering formal education because the context is course and program articulation to facilitate student transfer from community colleges to four-year institutions.

Competition for students is high during this time of smaller numbers of young people in the traditional college age group, but fiscal constraints brought on by declining state revenue and fiscal incentives for interinstitutional cooperation may combine to produce

new types of collaboration and improved articulation.

COMPARING THE CONCLUSIONS

Two conclusions from the study of articulation and transfer that was conducted in the early 1960s have a good deal of validity today.

Articulation

1960s: Present articulation machinery in many states and institutions is inadequate to solve the problems of increased numbers of transfer students and diversity of programs offered by four-year institutions. Uniformity of programs and requirements is neither feasible nor desirable, but community colleges cannot be expected to offer an infinite number of courses and programs that parallel those of institutions to which their students might transfer. Articulation that goes beyond pairs of institutions is needed, particularly in general education.

1987: Expanded efforts to improve course and program articulation have been taking place since the 1960s at both the state and institutional levels, including a few cases of legislative intervention to require articulation. Numbers of transfer students are decreasing in some states, but problems remain in both improving and expanding articulation agreements and insuring that transfer students and their advisers are fully informed about them.

Transfer Function

1960s: Community colleges are making it possible for students who would not be able to enroll in a four-year institution as freshmen to begin work toward a baccalaureate degree.

Community college students who graduate from high school with few academic deficiencies, enroll full-time, and choose their transfer institution and major by the end of their freshman year should be able to complete a baccalaureate-degree program in the same amount of time needed by native students, if articulation agreements are in place.

Attrition after transfer is higher than it should be and could be reduced if joint efforts were undertaken by the community colleges and transfer institutions. Factors that led students to enroll in a community college as freshmen—lack of money to enroll in a university, weak motivation and interest, and poor grades—often combine to cause attrition after transfer, but a better matching of student with institution and major should increase rates of persistence.

1987: Relatively little has changed in this regard since the earlier study. Some four-year institutions appear to be attracting a larger share of traditional students as freshmen, but at the same time community colleges are enrolling a larger number of students from ethnic minority groups that are underrepresented in higher education. These groups are characterized by low-income families, disadvantaged backgrounds, and poor elementary and secondary school preparation. The challenge to the community colleges to work effectively with these students to prepare them for further education or employment is great, and the need for good information about the educational options that are available to them is critical.

NATIONAL GUIDELINES FOR TRANSFER AND ARTICULATION

The guidelines that follow have been developed to assist states and their systems of colleges and universities as they review and revise their transfer and articulation policies, regulations, and practices. They are intended to be viewed as general statements of roles and responsibilities, functions, and desirable practices that states and groups of institutions might adapt in accordance with their own needs and characteristics, recognizing that fundamental differences exist among states in the ways they organize and administer their systems of higher education.

BASIS FOR THE GUIDELINES

The guidelines grow out of the findings of a national study of transfer, articulation, and collaboration that the Ford Foundation funded in the mid-1980s as a means of revisiting the function that had been similarly studied 25 years earlier. The current study included 11 states that were selected on the basis of the importance of the transfer function and geography—Arizona, California, Colorado, Florida, Illinois, Minnesota, New York, North Carolina, South Carolina, Texas, and Washington. The methodology was essentially interviews with a wide range of state officials and higher education administrators and analysis of relevant documents—statutes, regulations, research reports, and descriptive materials. Findings from the study have been published in *Transfer, Articulation, and Collaboration: Twenty-five Years Later.*

THE EARLIER STUDY

In 1961 The Center for the Study of Higher Education at the University of California, Berkeley, undertook a national study of transfer and articulation with a grant from the then United States Office of Education. At the conclusion of the study, national guidelines that were derived from the study's findings were published by the American Association of Collegiate Registrars and Admissions Officers and have been updated since that time. The focus of the earlier study and related guidelines was more on institutional practices than on state policies, and more on admissions and records-related issues than on curriculum and instruction. The new guidelines are thus viewed as a companion to the earlier guidelines and should not supplant them.

The National Center for Academic Achievement and Transfer, established in 1989, takes a campus-based approach to transfer education by focusing on the academic practices that contribute to successful transfer and analyzing the extent to which community

college students take advantage of the transfer opportunity. This Center complements the various studies on transfer and articulation by concentrating on aspects of transfer activity other than articulation documents or state regulatory requirements. It is the most recent Ford Foundation undertaking to improve transfer education through strengthening classroom-based practices for transfer-bound students.

In March 1990, AACJC convened a panel of experts on transfer to review a set of guidelines for establishing successful articulation and transfer. The panelists were:

Wayne Becraft
Executive Director
American Association of Collegiate Registrars and Admissions Officers

Judith Eaton
Director
National Center for Academic Achievement and Transfer

Richard Ernst
President
Northern Virginia Community College

Dorothy Knoell
Postsecondary Education Administrator
California Postsecondary Education Commission

Joshua Smith
President
Brookdale Community College

James Wattenbarger
Director and Professor
Institute of Higher Education
University of Florida

GENERAL PRINCIPLES

Several general principles provide a framework for the guidelines that follow:

- A distinction needs to be made between transfer and articulation. Transfer is defined as the process for reviewing and admitting applicants for advanced standing; articulation is defined as the process for aligning courses and programs that are offered by two or more institutions.
- Cooperative activities and voluntary agreements usually work better than those that are mandated by legislation or regulation: incentives for both two- and four-year institutions to improve transfer and articulation also seem to have greater potential than threats of punitive actions.
- Statewide agreements about policies and practices that arise from cooperative activities at the local or regional level are more likely to be effectively implemented than those that are promulgated without grassroots development.
- Transfer and articulation need to involve faculty, academic administrators, admissions officers and registrars, counselors, and financial aid officers, among others.
- Although state statutes and regulations regarding transfer and articulation probably do not apply to independent (private) institutions, they should be encouraged to participate as fully as possible in practices and programs in which the public institutions are involved.
- Affirmative action is defined as activities, plans, programs, and services that are

designed to increase the enrollment and persistence of historically underrepresented ethnic groups and others who are educationally and economically disadvantaged; educational equity is defined as the achievement of parity in enrollment and graduation with what traditionally has been called the majority group. Both should be kept in the forefront in policy and program development.

- Student flow needs to be seen as a *continuum* from secondary school through the two-year institution to the baccalaureate degree and beyond, and articulation needs to occur at all levels. At the same time, students who may not be in continuous enrollment from high school to a degree or degrees also need to be able to achieve their educational and career goals in a timely manner, with minimal obstacles and barriers.

WHAT IS SUCCESS?

Success in transfer and articulation is smooth student flow from level to level and between institutions with a minimum loss of time and credit for those who opt for this kind of attendance pattern, but with opportunities provided for others who start late, stop out, and change direction en route to the baccalaureate degree. Such success is highly dependent on three basic conditions: (1) leadership and commitment on the part of each institution's chief executive officer; (2) the wide dissemination of information about transfer and articulation that is clear, accurate, and up-to-date; and (3) goodwill and positive attitudes on the part of all.

GUIDELINES FOR TRANSFER AND ARTICULATION

Roles of governmental entities

1. Policy statements of *legislative intent* should *provide assurances* to community, technical, and junior colleges and their students that appropriate opportunities will be available to continue work toward and to achieve a baccalaureate degree for those who complete a lower-division program for transfer and meet requirements for admission with advanced standing.

2. Governors and state legislatures should *give broad policy direction* to the systems of postsecondary education in their states in regard to transfer and articulation between and among two- and four-year institutions, and they should *refrain* from putting into statute such matters as standards for admissions and transferability of courses.

3. State legislatures should *provide oversight* over the implementation and effectiveness of their policies regarding the flow of students between two- and four-year institutions and the articulation of courses and programs.

4. State agencies for coordination and planning should *assist* their legislatures *in monitoring* periodically the implementation and effectiveness of state policies by collecting and analyzing both descriptive and quantitative information about transfer and articulation and *making recommendations* to legislatures and institutions or systems of postsecondary education about needed changes in policies, regulations, and practices.

5. Governors and legislatures should *encourage* the development of *special programs and services* to increase the effectiveness of transfer and articulation—particularly on the part of historically underrepresented ethnic groups—and should *provide funding* for such projects on a pilot basis.

6. Governing boards for systems of two- and four-year institutions should *adopt policies and regulations* that implement state policy and review information being provided by their institutions to state coordinating agencies for problems in student flow and articulation that need attention.

Relationships between systems and campuses of two- and four-year institutions

7. Systemwide policies and regulations regarding the admission of transfer students and articulation of courses and programs should *ensure consistency of treatment* of transfer students, but should also *allow flexibility* for institutions under their purview to adapt to local and regional needs that may be related to mission, tradition, geography, demography, and other special circumstances.

8. Within general parameters that are established by system-level offices, institutions should be encouraged to *work locally and regionally* to develop transfer and articulation agreements and programs that are appropriate to their particular needs.

9. To the extent possible, local and regional agreements should be developed *cooperatively* and *on a voluntary basis*, rather than mandated system- or statewide.

Collaboration among faculty, academic administrators, and student personnel officers

10. In both two- and four-year institutions, faculty should have major responsibility for: (a) developing course and program *articulation agreements* (see below); and (b) *advising* potential transfer *students* about matters relating to majors in the disciplines in which they teach. Faculty in four-year institutions may have the additional responsibility of *developing criteria* for admission with advanced standing to majors that are impacted.

11. Student personnel staff in both two- and four-year institutions should *collaborate* for the effective *delivery of services* that include (a) outreach and recruitment, (b) career and education counseling, (c) student financial aid, and (d) orientation, before as well as after transfer.

12. State and institutional *student aid programs* need to be *reviewed* regularly in regard to meeting the needs of transfer students from community, technical, and junior colleges—for example, whether limits on aid to such students are realistic, whether an adequate amount has been set aside for transfers, and whether there is clear articulation between two- and four-year institutions in the awarding of aid to ensure continuity.

Admission

13. Two-year institutions should have *assurances* that their students who complete a lower-division transfer program with satisfactory grades (as specified by the receiving

institutions) will be admitted to continue work toward a baccalaureate degree.

14. *Minimum standards* (grade-point averages and test scores, if any) and requirements (general education and prerequisites for the major) for admission with advanced standing should be *stated as clearly and objectively as possible,* together with any *special conditions* for: (a) students who would not have been eligible for admission as freshmen on the basis of their high school record; and (b) applicants to impacted programs or campuses.

15. The development of agreements that involve *contracts or guarantees* between pairs or among groups of institutions should be *encouraged, but* qualified applicants who are not covered by such agreements should have the same opportunity to transfer as those who are so covered.

16. Admission with advanced standing should *not be restricted* to applicants who have completed an associate of arts degree for transfer or a general education core curriculum, but instead should be open to any applicant who has completed an appropriate lower-division program for transfer with satisfactory grades as prescribed by the receiving institution.

17. *Priorities for enrollment* in impacted programs and on campuses with insufficient space for all qualified applicants should be established and widely disseminated, taking into account new freshmen, continuing students, returning students, transfer students from two-year colleges, transfer students from other types of institutions, and other applicant groups.

Articulation

18. Articulation should be viewed as both a *horizontal* and a *vertical* process—the former referring to the alignment of lower-division courses and requirements and the latter the sequencing of lower- and upper-division courses and programs that are offered by two- and four-year institutions.

19. Common or *articulated numbers* may be *useful* for lower-division courses that are found by different institutions to be equivalent, *but* articulation should also encompass courses taken "in lieu of" equivalent courses—that is, courses with different content or methodology that share outcomes and objectives.

20. Special efforts should be made to develop articulation agreements for *majors in career fields* in which both two- and four-year institutions offer degree programs that are oriented to employment—for example, nursing, business, and industrial technology. Consideration should be given to awarding credit and waiving the requirement for upper-division courses that community, technical, and junior colleges teach in the lower division.

21. Two- and four-year institutions should work together to *define* (a) what is to be regarded as *"remedial"* or non-degree credit at the baccalaureate level; and (b) how students are to be asked to *demonstrate proficiency* (if by means other than course grades).

22. The dissemination of articulation *information* that is *reliable* and *up-to-date* to faculty

who have not been directly involved in developing agreements is essential to the success of the transfer function, and means must be found to insure that faculty, students, and counselors have such information and comply with such agreements in advising students.

23. There should be an *appeals* or *arbitration process* available to an institution or group of institutions and to students themselves who may feel that they are being treated unfairly in the development or implementation of an agreement.

Data bases and information systems

24. Community, technical, and junior colleges should be encouraged to develop a transfer student data base that would be useful in (a) *outreach* and *recruitment* efforts, particularly for underrepresented student groups; (b) *tracking students* through the lower division to transfer; and (c) assisting four-year institutions in *enrollment planning* and projecting to accommodate transfer students.

25. Four-year institutions should be encouraged to develop transfer student information systems that would yield useful data for the community, technical, and junior colleges in regard to: (a) *student flow*, including applicants who do not subsequently enroll; and (b) *transfer student performance*, compared with that of "native" students and those transferring from four-year institutions.

26. Information about course and program articulation should be *computerized* for use by transfer students, counselors, faculty advisers, registrars, academic administrators, and others who need accurate, up-to-date information about articulation for advising, monitoring, or planning to improve transfer.

Assessment

27. Two- and four-year institutions should be encouraged to use *common assessment instruments and standards* for freshmen who intend to work toward a baccalaureate degree in order to place them in writing, mathematics, and other basic skills courses, but these instruments and standards should not serve as a barrier to student flow.

28. Assessment programs in two- and four-year institutions should make provisions for *informed feedback* to participating students and their faculty and counselors, as appropriate.

Affirmative action and educational equity

29. Because *historically underrepresented* groups—particularly Black, Hispanic, and Native American students—are more likely to enroll in two-year colleges than in four-year institutions as freshmen, the improvement of transfer *opportunities* for and *performance* by these groups should be a high-priority consideration in the development of transfer and articulation policies, programs, and services to increase and improve the function.

APPENDIX A
METHODOLOGY OF THE STUDY

SELECTION OF STATES TO BE VISITED

The major criteria for selecting Arizona, California, Colorado, Florida, Illinois, Minnesota, New York, North Carolina, South Carolina, Texas, and Washington as the 11 states for site visits were geographical distribution across the country; importance of the transfer function to the state's network of higher education institutions; and diversity of organization and governance of higher education in the state. Inclusion of states from the 1960s study was only a minor factor in selection, but some overlap was inevitable because of common criteria for selection that were used in both studies. States common to the two studies were California, Florida, Illinois, New York, Texas, and Washington, while four states that participated in the earlier study were not selected for restudy—Georgia, Kansas, Michigan, and Pennsylvania. Other states that were considered but not selected for the present study were Kentucky, Maryland, Massachusetts, Mississippi, New Jersey, and Oregon, together with several Canadian provinces. The study would have been richer as a consequence of their participation, but readily available information on them diminished the need for some site visits and the logistics of travel that required visits to be made to pairs of states in various regions eliminated others.

SELECTION OF GROUPS TO BE INTERVIEWED

Display 2 on page 84 gives a summary of the types of personnel who were interviewed in each state. Persons who were interviewed were for the most part staff specialists with responsibility for the various topical areas of the interviews, but some board or commission members and association officers were included. The number and range of individual interviews varied from state to state as a function of the differing state structures for the coordination and governance of higher education, the availability of personnel, and time constraints of what were usually two-day visits.

TOPICS OF INQUIRY

Staff selected 10 topical areas for inquiry during the interviews. These topics ranged across a broad spectrum of college and university functions that involve two- and four-year institutional relations.

Cognizant of the relatively recent national studies of articulation and transfer by Kintzer and Wattenbarger (1985) and Cohen, Brawer, and Bensimon (1985), the staff focused its attention on aspects of interinstitutional

DISPLAY 2
Types of Personnel Interviewed in Each State

Personnel Interviewed

State	State Coordinating Agency	Systemwide Administration	Institutional Faculty and Administration	Governor's Office	Legislature	Legislative Staff	State Association
Arizona	x	x	x		x		
California	x	x	x	x		x	x
Colorado	x	x	x		x		x
Florida	x	x	x	x			
Illinois	x	x	x				x
Minnesota	x	x	x		x	x	x
New York	x	x	x				x
North Carolina	x	x	x				x
South Carolina	x	x	x				
Texas	x	x	x		x		
Washington	x	x	x			x	x

cooperation and collaboration that are often beyond the scope of articulation studies and are expected to become important areas for future negotiations among institutions and between state and institutional officials. These areas are:

1. *Freshmen and advanced-standing admission policies*

Changes in freshmen admission requirements and standards, particularly those increasing the subject-matter preparation of high school graduates seeking admission to public universities, may have implications for community college students preparing to transfer. Furthermore, "limited access" or "impacted" programs and campuses of four-year institutions create special problems for students seeking admission with advanced standing.

2. Skills assessment

Mandatory assessment of basic skills at the time of initial enrollment is a common practice of both community colleges and four-year institutions, often as part of a statewide program. It is sometimes followed by a "rising" examination at the end of the sophomore year that must be passed in order to enter the upper division, whether as a transfer or a continuing student. Implications for the flow of community college students to four-year institutions need to be examined.

3. Remediation

Mandatory remediation of basic skills follows their assessment, with responsibility for the former placed with or delegated to the community colleges in some states that are

attempting to improve the preparation of high school students for college and university work by requiring that they demonstrate basic skills achievement before they enroll. Since this requirement tends to be separated from admission policies, it is treated separately.

4. Special programs for ethnic minority and other disadvantaged students

Black, Hispanic, and other students from low-income or otherwise disadvantaged groups are more likely to enroll in a community college than a four-year institution as freshmen, and less likely to transfer than students of other ethnicity and economic backgrounds. Some states and institutions are establishing special programs to increase the number of transfer students from underrepresented groups and to insure that they are prepared to do successful baccalaureate-level work.

5. Baccalaureate degree opportunities for vocational students

Agreements governing transfer and articulation of courses and programs are drawn up for community college students earning an associate in arts or science degree and either exclude or do not meet the needs of students completing occupational or technical programs who seek transfer opportunities in four-year institutions. Undocumented reports indicate that the number of students in the latter category is increasing and that many are now transferring without the guarantees afforded liberal arts and pre-professional students. The kind of baccalaureate degree that best meets the needs of these vocational students, the nature of the courses for which baccalaureate-degree credit is appropriate, career ladders that parallel two-plus-two educational programs, and course sequencing and prerequisites are all matters that relate to the extension of transfer opportunities to vocationally oriented community college students.

6. State- and systemwide data bases

Information about student flow, performance, and program and course articulation is essential to the transfer function. But computer data bases that are organized for functions related to student accounting and budgeting may not be useful in developing information related to transfer and articulation without the addition of variables that make it possible to link data bases for students and programs in different systems of higher education.

7. Special encouragement of transfer

Community colleges may create an environment to encourage transfer that goes beyond the offering of a transfer curriculum and the designation of transfer counselors and articulation officers. Special arrangements include facilities, services, and information sharing.

8. State incentives and disincentives for transfer

States may create both incentives and disincentives to both institutions and students to enroll in a community college for the lower-division portion of a baccalaureate-degree program. Such measures are usually related to enrollment planning and budgeting.

9. Faculty and staff preparation and development

State universities play an important role in preparing faculty and staff for employment

in a community college as well as in-service staff development for such personnel. Future needs and university plans to meet them are still another area of collaboration between community colleges and four-year institutions.

10. General articulation

Promising articulation activities that are not treated in the other topical areas are included under this heading.

PROCEDURES FOR STATE VISITS

Commission staff contacted key higher education administrators in each state to request that they make arrangements for interviews with personnel in the designated groups. A description of the project and a brief statement of the general themes and topical areas for the interviews accompanied each request.

Interviews were semi-structured, with staff using a series of questions for each of the 10 topical areas to guide the interviews. Small groups usually participated in the initial interview in each state, with follow-up meetings with individuals with expertise in particular areas of inquiry. Discussion was not limited to the 10 areas when pertinent issues or topics came to the attention of staff—for example, state-level program review involving provisions for articulation and linkages with secondary education to facilitate the flow of high school graduates into and through higher education.

NATIONAL ADVISORY COMMITTEE

Early in the project, then Commission Director Patrick M. Callan appointed a national advisory committee whose members included executives from state coordinating agencies, state community college boards, a regional higher education association, a state association for independent colleges and universities, and a research institute; professors of higher education; chief executive officers from community colleges and public universities; and the executive officers of the American Association of Community and Junior Colleges, the American Association of Collegiate Registrars and Admissions Officers, and the American Council on Education.

The committee met twice—in May 1986, near the beginning of the project, and again in November 1986, as the project neared completion.

Members of the committee and their affiliations at the time were:

Kenneth Ashworth, Commissioner
Coordinating Board of the Texas College and University System

Robert Atwell, President
American Council on Education

Patrick M. Callan, Vice President
Education Commission of the States

Raul Cardenas, President
South Mountain College

J. Douglas Conner, Executive Director
American Association of Collegiate Registrars and Admissions Officers

Donald R. Gerth, President
California State University, Sacramento

Richard Jonsen, Deputy Director
Western Interstate Commission for Higher Education

Frederick C. Kintzer
Emeritus Professor of Higher Education
University of California, Los Angeles

Arturo Madrid, President
Tomas Rivera Center

William Moore, President
Association of Independent California Colleges and Universities

Dale Parnell, President
American Association of Community and Junior Colleges

Jack Peltason, Chancellor
University of California, Irvine

Piedad F. Robertson
Vice President for Educational Services
Miami-Dade Community College

Joseph Shenker, President
La Guardia Community College

Joshua L. Smith, Chancellor
California Community Colleges

Herbert M. Sussman
Superintendent/President
Rio Hondo College

John N. Terrey, Executive Director
Washington State Board for Community College Education

James L. Wattenbarger, Director
Institute of Higher Education
College of Education, University of Florida

Blenda J. Wilson, Executive Director
Colorado Commission on Higher Education

APPENDIX B
STATE PROFILES

This appendix presents information on five topics for some of the 11 states examined in the study—their types of postsecondary institutions, governance, enrollments, undergraduate admission policies, and the economic and demographic context of higher education in the state.

ARIZONA

Types of postsecondary institutions

In Arizona, there are 10 community college districts operating 15 colleges on 27 campuses around the state. The university system includes the University of Arizona, Arizona State University, and Northern Arizona University. Arizona also has four independent, nonprofit, regionally accredited, general-purpose institutions.

Governance

Two statewide boards have responsibility for the publicly supported postsecondary institutions in Arizona—the Board of Regents for the three state universities, and the State Board of Directors for Community Colleges.

Responsibilities of the Board of Regents include coordination, planning, budget review and approval, and program approval. The board derives its powers from the state constitution and statutes.

The Board of Directors for Community Colleges is the statutory statewide coordinating board for the publicly supported community college districts. It has authority for planning, coordination, budget review and recommendations, and program approval for the community colleges. Community college districts have locally elected governing boards.

The state boards coordinate their activities through a Joint Conference Committee. In 1983, that committee established the Academic Program Articulation Steering Committee and charged it with planning and convening meetings of representatives from specific academic disciplines at the public universities and community colleges to discuss articulation of degree programs, curriculum, transfer of students, and other related topics.

The steering committee establishes articulation task forces that provide Arizona's community colleges and public universities with a common forum to cooperatively exchange articulation information on a timely basis. It consists of faculty members who represent their institution and their discipline. The

issues discussed and the decisions and recommendations made by the task forces directly influence student transfer decisions at the colleges and universities.

Arizona's 14-member Commission for Postsecondary Education was created by executive order as the state's "1202 Commission" to assume planning responsibilities and to administer other assigned programs. Arizona has no statewide master plan for higher education, however, and planning is a major responsibility of each board. The Commission for Postsecondary Education is responsible for the administration and allocation of most federal funds for higher education.

Several other boards are also involved in matters relating to postsecondary education in Arizona:

- Arizona's State Board of Education serves as the State Board for Vocational Education. The board has responsibility for occupational programs offered by institutions designated as area vocational schools.
- The State Board for Private Technical and Business Schools has approval and licensing authority over private vocational-technical and proprietary schools. There is no state agency for licensing or approval of private degree-granting academic institutions. However, state statutes require that all corporations, whether profit or nonprofit, register and comply with the rules and regulations of the Arizona Corporation Commission.

Enrollments

Arizona's public institutions enroll approximately 50,000 students, many of whom transfer from the state's community colleges. For example, nearly 30 percent of the students enrolled in Arizona State University in fall 1986 had transferred from Maricopa County Community Colleges. Transfer students comprise almost half of the upper-division enrollment in the public universities.

Undergraduate admissions

Arizona public universities have open admission policies but use a rolling admission plan, whereby each students' application is considered immediately upon submission, and the applicant is notified of the results shortly thereafter. Students are eligible for admission to the four-year universities if they graduate from an accredited secondary school with 16 units or attain a GED. On average, the breakdown of these units must be: three or four in English, two in foreign languages, two in laboratory science, two in mathematics, and two in social studies. The remaining units may be in electives.

Economic and demographic contexts

Arizona's population is projected to be between 4.1 and 4.8 million people by the year 2000, up from 2.7 million in 1980. Nearly all of the growth in population from 1970 to 1980 can be accounted for by in-migration, which is expected to remain high for the rest of the century. People of Spanish origin represented 16.2 percent of the state's total population in 1980, but were 26 percent of the "under four" age group. Blacks represented 2.7 percent, American Indians 5.6 percent, and Asians just under 1 percent. About 74 percent of the state's population is white.

As of 1980, half of the Black and Spanish-origin population and two-thirds of the American Indian population in Arizona came from families earning less than $15,000 per year, while 4 to 7 percent of these groups came from families earning $35,000 or more. Fewer than 40 percent of the state's white and Asian population had income in the under-$15,000 range. Just under 20 percent of whites and Asians came from families in the $35,000-and-over income category.

CALIFORNIA

Types of postsecondary institutions

There are three segments of public postsecondary education in the state of California. The University of California has eight general campuses and one health sciences campus. The university includes the state's flagship institutions and conducts major academic and scientific research. The California State University is one of the largest systems of undergraduate and graduate education in the world and has 19 campuses spread throughout the state. The California community colleges operate with 107 campuses in 70 local districts. In addition, there is a large number of private institutions in California that range from prestigious independent research institutions like Stanford University and the University of Southern California to small proprietary schools. The Association of Independent California Colleges and Universities represents 61 of the more than 300 independent colleges and universities in California, or most of the regionally accredited independent California institutions. Vocational/technical education is provided by secondary schools and community colleges, as well as private institutions.

Governance

The Board of Regents of the University of California exercises its constitutional powers over the nine campuses in the system. The governing body of the state university is its board of trustees. The trustees exercise only statutory authority over the system. Seventy locally elected community college district boards of trustees are responsible for governing these colleges. General direction, leadership, and regulations to implement statutes are provided at the state level by the Board of Governors of the California Community Colleges.

The California Postsecondary Education Commission is a citizen board established by the legislature to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the governor and the legislature. The commission is charged by the legislature "to assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs." To this end, the commission conducts independent reviews of matters affecting institutions of postsecondary education in California, and it advises the governor, the legislature, other government officials, and educators on state policy in higher education. As an advisory body, the commission does not administer or govern any institutions. Its specific responsibilities include statewide planning for postsecondary education, covering such topics as programs, facilities, budgets, student charges, financial aid, access, and administration; the

review of proposals by public institutions for new degree programs and facilities; the development and operation of a statewide information system about California postsecondary education; analysis of the financial condition of independent colleges and universities; and biennial planning for education in the health sciences, such as medicine and nursing.

Enrollments

The University of California enrolls more than 140,000 students (headcount) each year. Total enrollment on the 19 state university campuses is in excess of 250,000 full-time equivalent students annually. Approximately half of the upper-division students in the state university transfer from the community colleges. More than one million students enroll in credit courses in the community colleges each year. Total annual enrollment in independent, degree-granting institutions in the state exceeds 300,000 students.

Undergraduate admissions

In accordance with the 1960 Master Plan for Higher Education in California, the university system chooses from the top 12.5 percent of California high school graduates, while the state university enrolls from the top one-third of high school graduates. The community colleges are open-door institutions, accepting all students who can benefit from the instruction offered.

Economic and demographic contexts

California's population is projected to exceed 32 million people by the year 2000, up from a current total of around 25 million. California grew by almost 4 million people in the 1970s—more than any other state. While most of this growth can be attributed to in-migration, population gains in the years to come may be as much the result of natural growth as in-migration. This is because many of the people migrating to California in the 1970s and 1980s were young people, who have attained or are approaching those years in which they will be starting families.

California's largest minority population is of Spanish origin, numbering more than 4.5 million people or more than 18 percent in 1980. Black residents constitute 7.5 percent of California's population, American Indians 0.9 percent, and Asians 5.3 percent. The remaining two-thirds of the state's residents are white. People of Spanish origin currently represent nearly one-third of California's school-aged population and will account for close to 40 percent of that age group by the end of the century.

Approximately 50 percent of the state's Black, Spanish-origin, and American Indian residents come from families earning less than $15,000 per year, while only 10 percent of those groups come from families earning $35,000 a year or more.

COLORADO

Types of postsecondary education

There are several groups of public postsecondary institutions in Colorado. The University of Colorado system includes campuses at Boulder, Colorado Springs, Denver, and a Health Sciences Center in Denver. A second

group of institutions includes the Colorado State University at Fort Collins, Fort Lewis College, the University of Northern Colorado, and the University of Southern Colorado. Still another state institution is the Colorado School of Mines. Four Colorado State Colleges are Adams, Mesa, Western, and Metropolitan (in Denver).

Colorado also has 15 public community colleges, most of which are now state institutions. In addition, there are eight area vocational schools that offer postsecondary education programs. A final public institution is the United States Air Force Academy. Colorado has four private, non-profit, regionally accredited colleges and universities.

Governance

The Colorado Commission on Higher Education was first established as a planning and coordinating agency in 1965. The commission's structure and areas of responsibility were amended several times beginning in 1970. It is a cabinet department of government and the agency was designated as the "1202 Commission" by the governor. Its executive officer is also (by statute) the executive director of the Department of Higher Education. The executive officer is appointed by the board and serves at its pleasure. Among the commission's statutory responsibilities are:

- The development and maintenance of a comprehensive plan for public higher education for public junior and senior colleges and vocational and technical schools;
- Program review and approval, and review and recommendations on the individual institutions' budgets; and
- Cooperation and coordination between the state's public and private institutions.

In addition to the commission as a central state-level agency, there are six institutional governing boards:

- The State Board of Agriculture serves as the governing board for the land-grant institutions—Colorado State University, the University of Southern Colorado, and Fort Lewis College.
- The Board of Regents of the University of Colorado is the only publicly elected governing board in Colorado and is responsible for the operations of the university on its four campuses.
- The Trustees of the State Colleges and University Consortium are charged with the governance of Adams State College, Mesa College, Metropolitan State College in Denver, and Western State College.
- The State Board for Community Colleges and Occupational Education governs the several institutions that comprise the state system of community colleges. This board also has oversight responsibilities for much of the programming of the local district colleges and 22 area vocational schools. In addition it serves as the state approving agency for veterans' programs and for 67 private vocational schools authorized to operate in the state.
- Finally, the Boards of Trustees of the Colorado School of Mines and the University of Northern Colorado each govern their own institutions.

Enrollments

More than 100,000 students enroll in postsecondary institutions in Colorado each year. Most students enroll and complete their education between the ages of 18 and 24, but an increasing number of older students find returning to college to be advantageous both professionally and personally.

Undergraduate admissions

Colorado community and junior colleges admit students who possess a high school diploma, equivalency, or meet minimum age requirements. In addition, students are admitted on the basis of their potential for success, regardless of previous academic experience. Vocational and technical schools also require applicants to meet minimum age requirements. A high school diploma or equivalent is generally a necessity for those programs for which state licensure is required, usually those in the health sciences field.

Some four-year institutions in high demand for access are selective in admitting new students. New admission standards that have recently been set for each institution by the commission are described in the text.

Economic and demographic contexts

Colorado's population is currently in excess of three million and is expected to reach 4.5 million by the year 2000. Four-fifths of the residents of the state are white, with people of Spanish origin representing almost 12 percent of the population and Blacks accounting for 3.5 percent. American Indians and Asians account for less than 2 percent of Colorado residents. By 2000, children of Spanish origin are expected to account for almost a quarter of the state's school-age population.

Large proportions (nearly 50 percent) of Colorado's Black, Spanish-origin, and American Indian populations come from families earning less than $15,000 a year. Approximately 10 percent of each of these ethnic groups come from families earning $35,000 a year or more.

FLORIDA

Types of postsecondary institutions

Florida has two systems of public higher education—28 community colleges, many of which are multi-campus institutions, and nine state universities. The Florida State University system includes six regional institutions that have been established since 1960: the land-grant University of Florida in north-central Florida; Florida State University; and Florida A & M University in Tallahassee. The latter was originally established for Black students and the former for women. Public-sector institutions also include 14 area vocational schools for which 14 community colleges have been designated by the State Board of Education as having primary responsibility in providing opportunities for persons age 19 or older. Florida higher education also includes 44 regionally accredited independent colleges and universities.

Governance

The Florida State Board of Education, whose members are the governor and six elected

cabinet officials, including the Commissioner of Education, who serves as its secretary, has primary responsibility for regulating higher education. It adopts rules that are encoded in an Administrative Code that implements statutes. Among the groups under its jurisdiction are the State Board of Community Colleges, the Board of Regents of the State University System, the Postsecondary Education Planning Commission, and the Articulation Coordinating Committee.

While not strictly part of the governance structure, the committee is an important vehicle for the coordination of the community colleges and the state universities with respect to transfer and articulation policies. Two other divisions of the State Department of Education have responsibility for Florida's common course-numbering system and statewide testing programs.

Enrollments

About 55 percent of Florida's high school graduates go on to college. About two-thirds of those who enter public institutions enroll as freshmen in degree-credit programs in its community colleges. Enrollment planning for the universities is based on the assumption that a majority of Florida's students will enroll initially in a community college and then transfer as juniors to complete baccalaureate-degree programs. A majority of juniors and university graduates statewide are indeed transfers from community colleges. The state is now allowing the previously upper-division regional universities to enroll a limited number of lower-division students, but dependence on the "two-plus-two" enrollment pattern is expected to continue.

Undergraduate admissions

Florida's community colleges are open-door institutions with respect to admissions policies, but new students must pass a test of basic skills or be placed in an appropriate remedial course as a condition of enrollment in college-credit courses. Some community colleges are authorized to grant high school diplomas and to offer elementary and secondary school courses to students at least 16 years of age under agreements with local school districts.

The public universities have common selective admission requirements that include a required pattern of high school courses as well as satisfactory high school grades and SAT or ACT scores. Because the number of qualified applicants exceeds the state-imposed number of new freshmen who can be admitted to some "limited access" university campuses, the admission standards yield an applicant pool from which these campuses select their new freshmen.

While not a part of the admissions requirements, tests of basic skills are administered to all new university freshmen. Those who do not earn passing scores must enroll for remediation at a community college or other institution outside the university while taking college-credit courses.

Both associate in arts degree applicants and university sophomores must make satisfactory scores on the statewide College Level Academic Skills Test (CLAST) before receiving their degree or moving to upper-division standing. Associate in arts degree holders satisfy university admission requirements but

are not guaranteed admission because of some limited access programs and campuses that select the most qualified applicants in accordance with announced criteria. Associate in science degree holders and transfer applicants to Florida's universities who have not completed an associate in arts degree do not qualify automatically for admission and are admitted under varying policies and practices.

Economic and demographic contexts

With the assistance of its institutions of higher education, Florida wants to increase high-technology, clean industry in the state and reduce its present economic dependence on agriculture, tourism, and retired residents (Florida Postsecondary Education Planning Commission, 1982). Planning for postsecondary education to the year 2000 is based on the assumption that the economic needs of the state should give direction to the future growth and development of its educational institutions, particularly with respect to the need for training programs to meet industry's changing manpower needs.

Florida is now the tenth most populous state and is expected to become fourth-largest during this century (ibid.). Its population in the early 1980s was about 75 percent non-Hispanic white, 14 percent Black, and 9 percent Hispanic, but ethnicity varies widely by region, with nearly 80 percent of its Hispanic and 36 percent of its Black residents located in South Florida. During the rest of the century, Florida's Black population is expected to decrease as a percentage of the total state population, while major increases in both numbers and percentages take place in the Hispanic population, especially in Dade County (Miami).

Regions of the state vary with respect to age as well as ethnic distribution, but overall Florida's population has the highest average age and the largest percentage of people age 65 and older of any state and is expected to have the largest number of elderly people by the end of this century. The age group of 15- to 24-year-olds is decreasing during this decade, and the 25- to 34-year-olds age group is expected to decrease in the 1990s but to a lesser extent, with in-migration a mitigating factor.

ILLINOIS

Types of postsecondary institutions

Illinois has 39 public community college districts, 36 of which comprise single campuses and three of which have multiple campuses, for a total of 50 colleges. Both the University of Illinois and Southern Illinois University have two major campuses, while the other public universities are somewhat regional in nature and each operate on a single campus—Chicago State, Eastern, Northeastern, Northern, Western, Illinois State, Governors State, and Sangamon State. The latter two universities were established as upper-division and graduate institutions in 1969. In addition to its public college and university systems, Illinois has one of the largest numbers of independent colleges and universities in the country.

Governance

Community colleges are governed by locally elected boards in 37 districts. One college is

in essence a state institution and has a local board appointed by the governor. The City Colleges of Chicago also have a locally appointed board. At the state level, the colleges are administered by the Illinois Community College Board.

There are four governing boards for Illinois's public universities: a Board of Governors for five state universities; a Board of Regents for the three "Regency Universities;" the Board of Trustees for Southern Illinois University; and the Board of Trustees for the University of Illinois.

The Board of Higher Education for the State of Illinois is a statutory coordinating board for all postsecondary education. It also has statutory authority for master planning for higher education, which includes community colleges, public universities, and private institutions.

In addition, Illinois has a statutory Joint Education Committee with three members each from the Board of Higher Education and the State Board of Education. It was established to improve communication and articulation between the various segments of education. Finally, Illinois has a State Scholarship Commission to administer student financial aid.

Enrollments

The public community colleges enrolled 361,186 students in fall 1984, 71.5 percent of whom were part-time. About 36 percent were enrolled with baccalaureate-degree objectives, 37 percent in occupational programs, 11 percent in general studies, 12 percent in remedial/adult education courses, and 4 percent in other categories.

Undergraduate admissions

The community colleges are essentially open-door institutions that provide preparatory, developmental, and remedial programs that include adult basic education, general educational development, English as a second language, and other kinds of instruction designed to prepare students to succeed in postsecondary education.

However, in November 1985 the Illinois Board of Higher Education adopted a uniform set of high school subject requirements for admission to public university baccalaureate-degree programs and to public community college associate in arts and associate in science degree programs, effective in fall 1990. The intent of the board was to secure more uniformity in the preparation of high school graduates for baccalaureate-degree work, while allowing the public universities to continue to select and admit students with different high school grades, rank in class, and test scores. Since the requirements were adopted, the legislature has interceded to postpone implementation of the new requirements, although steps have been taken to plan to implement them in the various systems of community colleges and universities.

MINNESOTA

Types of postsecondary institutions

Postsecondary education comprises four segments of public institutions and a private sector with four types of institutions. Area vocational technical institutes, 30 in number, offer about 730 one- and two-year programs, some of which lead to an associate degree. The state

system of 18 community colleges offers more than 100 associate-degree programs for transfer and 60 career programs that are one or two years in length.

The University of Minnesota has five campuses offering programs ranging from two-year degrees to graduate and professional degrees in more than 300 fields. The largest enrollment and most comprehensive offerings are at the Twin Cities campus. Two campuses are junior colleges, and two are baccalaureate institutions with more limited offerings than are available at the Twin Cities campus.

The public sector also includes six state universities that are regional in nature and now offer programs through the master's degree while also performing community college functions for residents of the area. The seventh state university was established in Minneapolis to serve what are viewed as nontraditional students.

The private sector in 1986 included more than 86 vocational schools offering more than 60 different career programs, three two-year colleges, 25 four-year colleges with primarily liberal arts programs, and three professional schools.

Governance

The Minnesota Higher Education Coordinating Board has broad statutory responsibilities for coordinating and planning both public and private postsecondary education, together with budget and program review functions for the public institutions.

The State Board of Education has statutory authority for governing the area vocational/technical institutes (AVTI), but they are also owned and administered by local school boards with responsibility for elementary and secondary education. The state system of community colleges is governed by a State Board for Community Colleges. Efforts are being made to coordinate their offerings and to develop distinct missions for their two types of postsecondary institutions when they are located in the same geographic area in order to minimize duplication of courses and also to provide opportunities for AVTI students to complete associate-degree programs through a community college. The Board of Regents has constitutional authority for governing the University of Minnesota, while the State University Board has only statutory authority for governing the seven institutions under its jurisdiction.

Undergraduate admissions

The area vocational technical institutes and the community colleges are open-door institutions. The universities are selective with respect to the admission of freshmen and have policies and practices differing among campuses, schools, and colleges on particular campuses. The state universities should admit freshman applicants who were in the top half of their high school graduating class, but they actually enroll freshmen not meeting this standard.

Freshman admission policies and practices of the University of Minnesota are difficult to describe objectively because (1) they differ among the various components of the institution, with the General College on the Twin Cities campus traditionally open-door; and (2) the university is examining its mission

with respect to limiting the size of its lower-division enrollment and then practicing greater selectivity in the admission of freshmen. Applicants are now expected to complete certain high school course requirements but are not rejected for failing to do so and may make up deficiencies after enrolling at the university.

Community college students transfer easily to the State University system, particularly if they have earned the associate in arts degree that certifies their fulfillment of university general education requirements. Articulation agreements have been developed that are both statewide and regional in nature.

Transfer to and articulation with the University of Minnesota is not a matter of system-wide agreements and practices because of the decentralized nature of the university with respect to its component schools. Community college students do in fact transfer in larger numbers than students from the state university and private Minnesota institutions, but in smaller numbers than students from out-of-state institutions.

Economic and demographic context

Minnesota is a populist state with a long history of commitment to and support of education. The legislature has had a goal of placing a public postsecondary institution within commuting distance of residents in all parts of the state and has reciprocity agreements with other states to enable students to cross state lines to take advantage of other opportunities. The state's current economic condition is neither as good nor as bad as anticipated. Minnesota is a two-economy state that is strong in the Twin Cities but weak elsewhere. Ethnic minority groups comprise a relatively small proportion of Minnesota's population. Black and Hispanic residents tend to be concentrated in the Twin Cities, while American Indian residents are a focus for special programs in other parts of the state. In 1984–85, students from all ethnic minority groups comprised 5 percent of the 12th grade enrollment statewide but 8 percent of that in the Twin-Cities area.

Population projections for Minnesota show a 20 percent decline in the traditional college-age cohort and a 12 percent decline overall. Changes in the age distribution of the populations and in centers of population are resulting in some new demands for educational services.

NEW YORK

Types of postsecondary institutions

In New York, there are two systems of public higher education institutions: the State University of New York (SUNY); and the City University of New York (CUNY). The SUNY system is the largest of the two, consisting of four university centers, 13 colleges of arts and sciences, four health/science centers, 10 specialized colleges, six agricultural and technical colleges, and 29 community colleges. The CUNY system, on the other hand, consists of seven junior and 11 senior institutions. In addition, New York has a relatively large system of independent institutions, which at last count consisted of 105 independent colleges and universities.

Governance

The Regents of the University of the State of New York are responsible for the general

supervision of and setting of policy for all educational activities within the state and preside over the university and the State Education Department. The Regents and the department have authority and responsibility for planning and coordination, degree powers and program approval for all sectors and levels of postsecondary education, including all degree-granting institutions. The Regents are empowered to charter and evaluate educational institutions, license and oversee the professional conduct of practitioners in nearly all professions, certify teachers, and allocate certain state financial assistance to public and private educational institutions. In addition, the Regents are considered to be the State Board for Vocational Education, since the federal government empowers them to administer funds and programs under the Vocational Education Act.

Under the leadership of the Regents are two statutory public institutional governing boards—the Board of Trustees of SUNY and the Board of Trustees of CUNY. There is no state board for community colleges. Instead the state's community colleges are, in essence, governed by the SUNY and CUNY Trustees. Subject to approval by the Regents, the Trustees of each system establish admissions and transfer policy and determine the emphasis in academic programs offered by its junior and senior institutions. Although transfer policy and articulation initiatives also largely evolve from the Regents' statewide planning process, actual transfer agreements and articulation efforts are an institution-to-institution endeavor.

Enrollments

According to the National Center for Higher Education Management Systems (1984, p. 334), New York residents are "15 percent more likely to enroll in higher education than average" and this level of enrollment is attained "because its rate of attendance of independent institutions—14 per 1,000 population—is more than twice the national rate." However, the resident enrollments at the state's public institutions is about 18 percent the national average, and the state "provides less emphasis on university studies and significantly more emphasis on study at two-year institutions than average in the public sector."

New York's independent institutions, with areas of study in almost every academic discipline and their own associate degree to doctoral degree programs, today enroll more full-time-equivalent students than either the State University of New York or the City University of New York. What probably distinguishes New York's higher education system the most from other states is that in both absolute numbers and as a share of total enrollments, significantly more minority students (primarily Black and Hispanic) enroll at its largest system of public higher education—SUNY.

Undergraduate admissions

All community colleges in New York adhere to the full opportunity concept, which guarantees an open-door admission to all residents who earn a high school degree. Other students are admitted on the basis of special criteria, however. Because demand for some community college programs (such as nursing) is high, certain admission criteria and specific course requirements have been established for admission to such programs.

At the State University of New York, students were admitted under varying admissions standards depending on the particular SUNY campus a student applies to. Among the factors considered by the SUNY institutions, various combinations of the following are used in making admission decisions: completion of 16 academic credits; high school grade-point average; rank-in-class; Regents Examination scores; and ACT or SAT scores. Because most of the state colleges and universities partake in the Educational Opportunity Program designed to serve students from educationally and financially disadvantaged backgrounds, special admissions actions are used to admit the applicants to college. Finally, a SUNY policy guarantees junior-level status to all graduates of SUNY community college transfer programs.

Tuition and fees

In the fall of 1986, annual tuition and fee rates for New York's colleges and universities were as follows: The state's research universities charged resident students $1,464 at the undergraduate level and $3,314 to those at the graduate level. Nonresident students at the undergraduate level were charged $1,437, whereas graduate students were charged $3,822. Comprehensive state colleges and universities charged slightly lower rates than did the research universities. Resident undergraduate rates were $1,437, and graduate student rates were $2,198. For nonresident students, undergraduate rates were $3,331 and graduate rates were $3,808. Community colleges charged resident students annual rates of $1,225 and nonresident students rates of $2,500.

Economic and demographic contexts

Based on information from the National Center for Higher Education Management Systems (1984, p. 334), the wealth and financing of higher education in New York can be described as follows. Because New York levies the highest tax rate in the nation, the state overcomes a below-average rate of state wealth and obtains more tax revenues than does any other state in the union except Alaska. In recent years, higher education in New York has suffered real-dollar loses in state appropriations, but the state's overall per capita support for higher education has remained above the national average. Moreover, not only does the state provide more financial support to independent higher education per capita than does any other state, it is second to Alaska in per capita student aid. Yet the Regents recognize that many demands have been placed on the state's higher education system to assist with the transformation of New York's economic base from manufacturing to service and high technology industries.

TEXAS

Types of postsecondary institutions

Texas has three types of public institutions of higher education—community or junior colleges, state universities, and technical institutes. The two-year colleges are governed by 49 local boards, five of which are multicampus districts. The public universities are governed by 14 boards, five of which are responsible for single institutions and the remainder for some combination of university campuses, off-campus centers, and health sciences centers, a total of 27 university

campuses; four health sciences centers; three off-campus centers; and a college of osteopathic medicine. Some of its campuses and centers are upper-level and graduate institutions. Public higher education also includes four campuses of the Texas State Technical Institute. At the same time, several comprehensive institutions are authorized to offer associate as well as baccalaureate and advanced degrees. Texas is also served by 59 independent colleges and universities, including five two-year institutions.

Governance

The Coordinating Board for the Texas College and University System has broad responsibilities in the areas of planning, budgeting, program review, articulation, and student financial aid. It also acts as a state-level coordinating board for community colleges and now performs the vocational education functions for these institutions that were the responsibility of the Texas Education Agency until 1985.

The governance structure includes 15 governing boards for Texas's universities as well as a Board of Regents for the Texas State Technical Institution. The 49 public junior and community college districts also have local governing boards.

Enrollments

Nearly 90 percent of Texas's total higher education enrollment is in public colleges and universities, which is split 55/45 percent between public universities and junior or community colleges. However, since students at some university campuses in the public sector are also enrolled in two-year, lower-division programs, the proportion of the total enrollment in baccalaureate, graduate, and professional programs is probably lower than 55 percent.

The ethnic distribution of students in the public two-year colleges differs from that found for the public universities, with larger percentages of Hispanic and Black students in the former, larger percentages of white and nonresident alien students in the latter, and approximately equal percentages of students from other ethnic minority groups in both. When enrollments in all public institutions at all levels of higher education are combined, the ethnic distribution in the fall 1984 term was white students, 71 percent; Hispanic students, 14 percent; Black students, 9 percent; nonresident alien students, 4 percent; and students from other ethnic minority groups, 2 percent (Coordinating Board, 1985).

Undergraduate admissions

Community colleges are open-door institutions with a state-endorsed admissions policy "allowing the enrollment of disadvantaged students" for whom compensatory programs are "designed to fulfill the commitment" to such a policy (Texas Education Code, Section 130.003).

WASHINGTON

Types of postsecondary institutions

In Washington the public system of higher education consists of five universities—the University of Washington, Central Washington University, Eastern Washington University, Washington State University, Western

Washington University—one state college, the Evergreen State College, and 27 community colleges. In addition, Washington higher education includes 16 independent institutions, 10 of which are baccalaureate institutions, one two-year institution, and five vocational-technical institutes.

Governance

The recently created Washington Higher Education Coordinating Board has primary responsibility for higher education in Washington. This new board has among its responsibilities that of developing and establishing role and mission statements for the university and community college systems; preparing a master plan that establishes guidelines for the provision of all forms of higher education in the state (including adult and continuing education); reviewing the higher education budget to ascertain conformity with the Master Plan; and reviewing student fee levels, institutional admissions and transfer policies, and new and existing degree programs.

The Washington system of community colleges is governed by the State Board for Community College Education, consisting of eight members, one from each congressional district, appointed to four-year terms by the governor with the consent of the Senate. The board employs a director who in turn employs a staff of 36. Among the principal responsibilities of the board are to: (1) review community college district budgets and prepare a single system budget for submission to the governor; (2) establish guidelines for the disbursement of funds, and disburse capital and operating funds to the community college districts; (3) ensure that each community college district offers a comprehensive program and maintains an open-door policy; (4) prepare a comprehensive state plan for community college education; and (5) establish minimum standards to govern operation of the community colleges with respect to personnel qualifications, budgeting, accounting, auditing, curriculum content, degree requirements, and admission policies.

The 27 community colleges are regulated by 23 district boards of trustees. Among the key responsibilities of these boards are to (1) operate the community colleges in their district; (2) create comprehensive programs and maintain an open-door policy; (3) establish and maintain night schools; (4) with the assistance of faculty, prescribe the course of study; (5) grant diplomas, degrees, and certificates; and (6) enforce their own rules and those of the State Board for Community College Education.

Enrollments

In 1983–84, Washington ranked ninth among states in participation rates at public institutions of higher education, having declined steadily since 1980–81 when the state had the nation's top participation rates per capita in public higher education. Nonetheless, Washington has witnessed relatively high participation rates overall, which is predominantly due to the state's relatively large community college system. Turning to more current data, in fall 1986 public undergraduate and graduate "university" enrollments totaled 63,966 and 12,592, respectively, with the grand total of 76,558, reflecting a considerable decline from the 84,994 grand total in 1983. On the other hand, enrollment at

independent institutions in 1986 totaled 21,645 at the undergraduate level and 4,994 at the graduate level, reflecting a steady state in enrollments over the previous 10 years. More than half of all college and university students in Washington attend community colleges.

Undergraduate admissions

In Washington, admission standards are established by the governing boards of the individual institutions. The community colleges operate on an open-admissions policy, whereby no grade-point averages or test scores are required to enter college. The University of Washington, on the other hand, is the most selective of the public institutions in the state. It uses an admissions index score that combines the students' high school grade-point average and test scores on the ACT, SAT, or Washington Pre-College Test, and its students are also required to complete a prescribed pattern of high school courses. The other four public universities in the state—Central Washington, Eastern Washington, Washington State, and Western—require a minimum grade-point average of 2.5 and only recommend a prescribed pattern of high school courses. Finally, the Evergreen State College, the state's only state college, requires its students to rank at least in the upper-half of their high school class as a condition for admission.

In Washington, transfer student admission is determined following an assessment of academic performance and potential on the same basis as native students. Moreover, community colleges and baccalaureate institutions in Washington maintain transfer agreements, which guarantee students having a community college associate degree to earn junior standing upon admission to a Washington university. However, the transfer agreements do not guarantee admission to an impacted program or that all community college credits will be accepted as satisfying the requirements of the students' choice of degree program.

Tuition and fees

The following tuition and fee rates were levied by Washington institutions of higher education in 1986–87, which are compared to 1985–86 national average rates by peer institutions.

The state's doctoral universities, the University of Washington and Washington State University, charged resident undergraduate and graduate students annual rates of $1,605 and $2,319, respectively. The national average for their peers were $1,475 and $3,996, respectively. The rates charged the nonresident students were $4,461 for undergraduates and $5,775 for graduate students, which on average were only slightly higher than the rates charged by their counterparts nationwide.

Tuition and fees at Washington regional universities—Central Washington, Eastern Washington, Evergreen State, and Western Washington—were $1,212 for resident undergraduates and $4,206 for nonresident undergraduates, with only the latter differing considerably from the average rates charged by their counterparts nationwide ($2,953). Graduate students paid resident rates of $1,710 and nonresident rates of $5,094, whereas on average their peers paid rates of $1,295 and $2,942, respectively.

Finally, Washington community college students were charged $699 if they were nonresidents.

REFERENCES

American Association of Collegiate Registrars and Admissions Officers. *Guidelines for Improving Articulation Between Junior and Senior Colleges.* Washington, D.C.: The Association, 1986.

California Postsecondary Education Commission. *Promises to Keep: Remedial Education in California's Public Colleges and Universities.* Commission Report 83–2. Sacramento, California: The Commission, January 1983.

Progress Report on Segmental Responses to the Commission's Recommendations Regarding Remedial Education: A Staff Report to the California Postsecondary Education Commission. Sacramento, California: The Commission, July 1984, December 1985, and April 1986.

Reaffirming California's Commitment to Transfer: Recommendations for Aiding Student Transfer from the California Community Colleges to the California State University and the University of California. Commission Report 85–15. Sacramento, California: The Commission, March 1985.

Facilitating the Transfer of Community College EOPS Students to California's Public Universities: Report of a Task Force Representing the California State Department of Finance, the Office of the Legislative Analyst, the California Community Colleges, the California State University, the University of California, and the California Postsecondary Education Commission, Convened in Response to Assembly Bill 3775 of 1984. Sacramento, California: The Commission, February, 1985.

Commission Comments on the Intersegmental Task Force Report, Facilitating the Transfer of Community College EOPS Students to California's Public Universities. Sacramento, California: The Commission, April 1985.

Progress in Facilitating the Transfer of Community College EOPS Students: A Report to the Legislature and Governor in Response to Assembly Bill 1114 (Chapter 1586, Statutes of 1985). Sacramento, California: The Commission, April 1986.

Transforming Data into Information: Improving Student Performance Reporting: A Staff Report to the California Postsecondary Education Commission. Sacramento, California: The Commission, June 1986.

Cohen, Arthur M., Brawer, Florence B., and Bensimon, Estele M. *Transfer Students in American Community Colleges.* Los Angeles: ERIC Clearinghouse for Junior Colleges, March 1985.

Coordinating Board for the Texas College and University System. *Fact Book.* Austin, Texas: The Board, October 1985.

Informing the Future: A Plan for Higher Education for the Eighties. Austin, Texas: The Coordinating Board, January 1981.

Florida Postsecondary Education Planning Commission. *The Master Plan for Florida Postsecondary Education.* Tallahassee, Florida: The Commission, 1982.

Progress in Implementing the Master Plan for Florida Postsecondary Education: Annual Report of of the Florida Postsecondary Planning Commission. Tallahassee, Florida: The Commission, July 1984.

Joint-Use Facilities for Postsecondary Education in Florida: Report and Recommendations of the Commission, 1985—Report 5. Tallahassee, Florida: The Commission, March 21, 1985.

Demographics, Standards, and Equity: Challenges in College Admission. Report of a Survey of Undergraduate Admissions Policies, Practices, and Procedures Sponsored by the American Association of Collegiate Registrars and Admissions Officers, the American College Testing Program, Educational Testing Service, and the National Association of College Admission Counselors. Iowa City, Iowa: The American College Testing Program, November 1986.

Illinois Board of Higher Education. *Recommended Priorities for Advancing Minority Participation in Higher Education.* Agenda Item 9. Springfield, Illinois: The Board, May 1985.

Illinois Community College Board. *A Statewide Follow-up Study of Fall 1979 Transfer Students From Illinois Public Community Colleges.* Springfield, Illinois: The Board, 1986.

Kintzer, Frederick C., and Wattenbarger, James L. *The Articulation Transfer Phenomenon: Patterns and Directions.* Horizons Management Series. Washington, D.C.: Council of Universities and Colleges, American Association of Community and Junior Colleges, 1985.

Knoell, Dorothy M., and Medsker, Leland L. *From Junior to Senior College: A National Study of the Transfer Student.* Washington, D.C.: American Council on Education, 1965.

Lavin, Marjorie W. *Current Issues in Transfer and Articulation: Impact of General Education Requirements, Joint Admissions, and Services for Transfer Students.* Utica, New York: SUNY College of Technology, 1987.

Los Angeles Harbor College. *Passport Directory.* Los Angeles: Los Angeles Harbor College, Fall 1986.

Schaier-Peleg, Barbara, ed. *New Initiatives for Transfer Students: Urban Community Colleges Transfer Opportunities Program.* Bronx, New York: Network, June 1984.

State University of New York. *Attrition and Retention: The Full-time, First-time Students in Baccalaureate and Associate Degree Programs, Including Postsecondary Opportunity Students, Class of 1974.* Albany, New York: Central Office of Institutional Research, Report 4-87A, 1987.

Tribble, Israel. *The McKnight Centers of Excellence: A Conceptual Framework.* Tallahassee, Florida: McKnight Programs in Higher Education in Florida, (undated).

University of California. *University of California Undergraduate Admission Packet, 1986–87.* Berkeley, California: The University, 1986.

University of the State of New York. *Increasing Minority Access to the Licensed Professions.* Regents Action Report. Albany, New York: The State Department of Education, February 1984.

ERIC Clearinghouse for Junior Colleges

109

JUN 8 1990